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THE 34th ANNUAL DRI/McGRAW-HILL SURVEY OF PRELIMINARY PLANS FOR NEW PLANTS AND EQUIPMENT, 1987-89

Bullishness continues to pervade corporate planning in American business. DRI/McGraw-Hill's latest investment survey reveals a dramatic surge in 1988 investment plans; it also reaffirms a close adherence to the healthy 1987 capital spending projections reported in the previous spring survey. The responses, filed in large part prior to the October 19 market plunge, indicate that U.S. companies plan to boost 1988 investment outlays 6.2%. If this increase is fully implemented, despite the possible fallout from the Wall Street meltdown, U.S. capital investment would reach a record $415.5 billion (Table I).* DRI plans a follow-up phone survey of respondents in mid-December to investigate whether the stock market crash has impinged on firms' spending plans.

The large nominal spending increase has outpaced inflation expectations. Survey respondents anticipate an overall 4.2% hike in plant and equipment prices in 1988 (Table II). Assuming these investment and price expectations materialize, real (inflation-adjusted) capital spending would rise a full 2% for the year.

Within the three major sectors, the optimism is most pronounced among durable manufacturers, which plan to follow a slight 1.6% rise this year with an aggregate increase of 10.1% in 1988. Nondurable goods manufacturers are also generally upbeat, looking for an overall 7.6% increase. Here, only textile makers and other nondurable manufacturers foresee cuts in 1988. Nonmanufacturing firms are the most split over 1988 prospects. Large investment increases by mining, airline, and other transportation firms will outdistance anticipated cuts by electric utilities and communication companies, resulting in a 4.6% advance next year.

These are the key findings of DRI/McGraw-Hill's 34th Annual Survey of Preliminary Plans for New Plants and Equipment, 1987-89. The survey was conducted in September and October and drew responses from 546 companies that account for nearly 19% of plant and equipment spending in the

*Tables denoted by Roman numerals appear at the end of this report.

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United States (Table X). Figures in this report are adjusted to represent spending by all U.S. companies and reflect domestic investment only.

INFLATION EXPECTATIONS

Survey respondents expect an average 4.2% rise in 1988 capital goods prices (Table II); DRI projects an increase of only 1.8%. While inflation fears were beginning to resurface in various financial markets prior to the equity tumble on October 19, they are probably not the reason for the survey's higher inflation expectations.

Respondents have consistently overstated capital goods price inflation over the years. Last fall, they predicted a 3.6% rise for plant and equipment prices in 1987; this past spring, the figure was down to 3.3%. DRI, however, estimates 1987 plant and equipment prices will rise less than 1%.

Part of the explanation for the survey's overstatement of inflation may simply be a persistently pessimistic attitude on behalf of respondents. It is also probable, though, that respondents take little account of quality improvements in the capital goods they purchase. Their estimates of price inflation would then tend to exceed measured price inflation in the official data, which do make adjustments for quality changes. This is particularly important in the case of office equipment (mainly computers). Because of

Chart 1
Investment in New Plants and Equipment, All Businesses
(Billions of dollars)

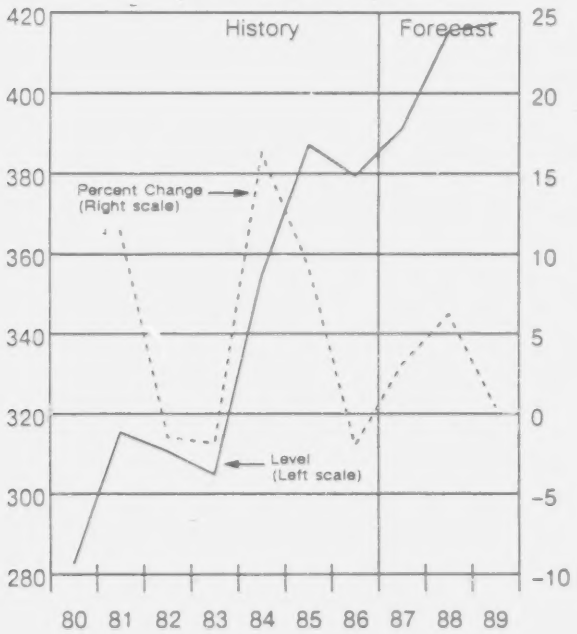


Chart 2
New Plant and Equipment Prices
(Percent change)

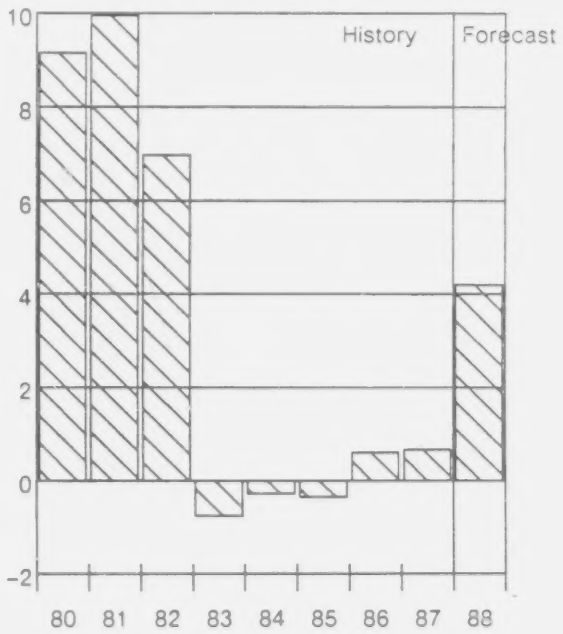
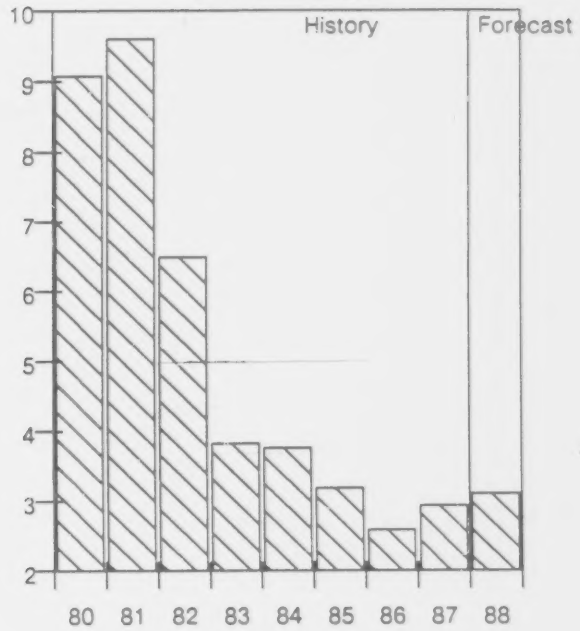


Chart 3
Output Prices
(Percent change)



technological improvements in computers, the price deflator for office equipment has declined at an average annual rate of 13.1% in the 1980s.

Survey respondents expect prices for their products to rise an average 3.1% in 1988 overall; manufacturers predict a lower 2.7% increase (Table II). At the same time, manufacturers anticipate sales to jump 7.9% (Table III); coupled with their product price inflation, this would yield a real sales increase of 4.8%. This number could be somewhat high, however, in light of the possible negative effect of the stock market crash on consumer confidence.

INDUSTRIAL DETAIL

After a 7% spending cut in 1986, replacement needs and an improving trade position caused an investment turnaround for the manufacturing sector this year. With a lower dollar thrown into the mix, optimism is even higher for manufacturers in 1988. Durable goods manufacturers are the most upbeat about next year, boosting investment a vigorous 10.1%. Electrical machinery makers, the largest durable industry, foresee an 11.4% jump in their capital budgets. The communication, electrical distributing, and electronic component companies plan the largest increases, followed by electric lighting, wiring, and other

Table 1
Capital Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	86:3	86:4	87:1	87:2	87:3	1984	1985	1986
Total Equipment	315.0	318.5	305.6	317.5	336.8	281.4	304.8	313.5
Information Processing & Related Eq.	129.2	135.4	128.5	132.4	145.7	100.6	120.5	128.7
Office & Computing Machinery	71.3	75.1	70.9	73.7	84.1	49.1	66.4	71.9
Communication Equipment	33.9	35.6	34.0	34.6	37.2	29.3	31.3	33.0
Scientific & Engineering Inst.	12.2	12.8	12.2	12.4	12.6	10.4	11.6	12.2
Photocopy & Related Equipment	11.8	11.9	11.4	11.7	11.9	11.8	11.3	11.6
Industrial Equipment	51.2	52.5	51.7	51.5	53.3	49.2	51.0	51.5
Fabricated Metals	7.6	7.5	7.6	7.4	7.2	8.1	8.0	7.6
Metalworking Machinery	14.7	14.7	14.4	14.4	14.2	13.7	14.7	14.8
Special Industrial Eq.	13.5	14.0	14.3	14.2	14.8	11.6	11.9	13.2
General Industrial Eq.	15.5	16.3	15.4	15.6	17.1	15.7	16.5	15.8
Transportation Equipment	63.9	57.8	53.5	59.8	61.0	59.5	61.5	60.9
Trucks, Buses & Trailers	29.2	26.5	27.3	29.6	31.0	27.5	29.5	27.8
Autos	19.5	17.3	13.0	15.2	16.8	20.6	19.2	18.5
Aircraft	12.6	11.3	11.2	12.8	10.9	8.0	10.0	12.2
Ships & Boats	1.2	1.5	0.8	0.8	0.8	1.8	1.4	1.2
Railroad Equipment	1.3	1.2	1.2	1.2	1.5	1.6	1.4	1.2
Energy and Related Eq.	15.2	16.6	15.4	16.0	16.4	17.1	16.6	15.8
Engines & Turbines	1.4	2.3	1.1	1.3	1.3	1.6	1.7	1.7
Electrical Trans. & Dist. Eq.	11.3	11.8	11.6	11.8	12.0	11.7	11.5	11.5
Mining & Oilfield Machinery	2.5	2.6	2.7	2.9	3.1	3.7	3.4	2.6
Miscellaneous Equipment	57.6	58.1	58.5	59.9	62.7	56.6	56.8	58.6
Furniture & Fixtures	13.5	13.8	13.6	13.7	13.7	12.7	13.4	13.4
Tractors	4.9	5.0	5.2	5.2	5.8	5.9	4.9	5.2
Agricultural Machinery	5.6	5.6	6.4	6.3	7.1	6.5	5.8	5.8
Construction Machinery	9.5	9.0	8.5	9.1	9.4	8.6	9.4	10.4
Service Industry Machinery	7.3	7.2	7.4	7.7	7.7	7.3	7.6	7.4
Electrical Equipment, n.e.c.	8.3	9.1	8.7	9.0	9.2	7.1	7.0	8.1
Other Equipment	8.6	8.4	8.8	9.0	9.8	8.6	8.8	8.4
Annual Rates of Change								
Total Equipment	3.1	4.6	-15.3	16.5	26.7	20.3	8.3	2.9
Information Processing & Related Eq.	11.0	20.8	-18.8	12.5	46.9	28.5	19.8	6.8
Office & Computing Machinery	0.1	22.8	-20.2	16.5	69.1	52.1	35.1	8.4
Communication Equipment	37.9	21.7	-16.8	7.7	32.8	9.1	6.7	5.5
Scientific & Engineering Inst.	-0.6	23.2	-17.9	5.6	5.9	3.3	11.7	5.8
Photocopy & Related Equipment	29.1	4.8	-17.1	9.8	10.2	29.8	-4.3	2.5
Industrial Equipment	1.4	11.1	-6.5	-1.0	14.0	14.9	3.7	0.9
Fabricated Metals	-7.9	-3.5	2.6	-9.2	-11.9	-3.2	-2.1	-4.2
Metalworking Machinery	-5.0	2.5	-9.3	1.1	-5.4	22.6	7.1	0.9
Special Industrial Eq.	17.8	17.6	7.8	-3.7	20.0	10.3	2.4	11.3
General Industrial Eq.	-0.5	21.9	-19.1	3.7	44.2	23.8	4.6	-3.9
Transportation Equipment	8.1	-32.7	-26.7	55.3	8.8	21.1	3.3	-1.0
Trucks, Buses & Trailers	11.1	-32.0	12.5	39.4	19.2	47.8	7.2	-5.8
Autos	26.3	-37.9	-68.1	86.7	49.8	14.9	-6.8	-3.6
Aircraft	-24.0	-35.6	-3.6	71.3	-47.7	-14.3	25.2	22.0
Ships & Boats	42.8	159.9	-93.4	34.6	-4.7	-18.6	-20.2	-16.2
Railroad Equipment	67.2	-37.5	17.7	-1.6	114.9	48.9	-14.8	-12.9
Energy and Related Eq.	1.0	44.0	-26.3	15.8	9.5	9.7	-2.6	-4.8
Engines & Turbines	5.0	590.3	-93.8	69.4	-6.9	12.3	5.3	1.9
Electrical Trans. & Dist. Eq.	1.4	18.1	-6.8	7.5	7.4	16.1	-1.7	-0.1
Mining & Oilfield Machinery	-2.9	16.7	21.0	33.8	26.5	-7.3	-8.9	-24.4
Miscellaneous Equipment	-14.6	3.6	2.5	10.4	19.5	14.1	0.4	3.2
Furniture & Fixtures	8.9	11.9	-8.2	2.9	2.5	16.1	5.0	0.4
Tractors	-19.7	4.5	14.7	-1.5	56.8	14.3	-15.7	4.3
Agricultural Machinery	-17.7	-4.2	78.1	-6.6	59.0	0.3	-10.6	-0.9
Construction Machinery	-58.6	-18.5	-19.0	30.5	14.0	30.3	9.9	10.1
Service Industry Machinery	-16.2	-1.1	6.9	20.4	-1.4	18.0	3.7	-2.2
Electrical Equipment, n.e.c.	28.6	43.5	-16.8	15.2	9.4	18.6	-2.3	16.2
Other Equipment	5.3	-6.9	18.5	11.6	39.4	2.9	2.7	-3.9

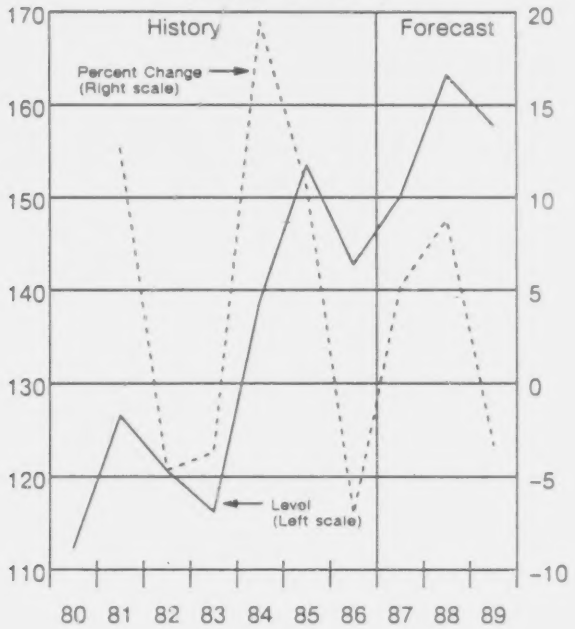
Table 2
Nonresidential Construction
(Billions of 1982 dollars)

	Quarterly					Annual		
	86:3	86:4	87:1	87:2	87:3	1984	1985	1986
	Billions of 1982 dollars							
Total Structures.....	122.69	124.63	120.38	120.38	124.93	143.75	149.37	130.27
Buildings & Other.....	80.16	80.64	76.15	74.69	74.30	79.45	89.82	82.68
Offices.....	23.64	23.17	21.71	20.27	20.88	23.87	28.15	24.77
Stores & Warehouses..	24.18	23.83	22.26	22.42	21.24	20.40	25.00	24.40
Industrial.....	11.23	11.74	10.01	10.25	10.21	12.66	14.06	11.91
Institutional.....	8.50	9.17	9.66	9.44	9.32	9.07	8.62	8.74
Educational.....	1.56	1.88	2.46	2.37	1.95	1.30	1.49	1.71
Religious.....	2.32	2.44	2.26	2.26	2.39	1.96	2.15	2.34
Hospitals.....	4.63	4.85	4.94	4.81	4.98	5.81	4.98	4.69
All Other.....	12.61	12.73	12.51	12.32	12.65	13.44	13.99	12.86
Public Utilities.....	23.93	23.36	22.56	23.85	25.63	24.40	24.21	24.14
Telephone & Telegraph	7.52	7.46	7.02	7.20	7.42	6.71	6.90	7.52
Mining & Petroleum.....	18.60	20.64	21.67	21.85	25.00	39.90	35.33	23.45
	Annual Rates of Change							
Total Structures.....	-16.6	6.5	-13.0	0.0	16.0	13.0	3.9	-12.8
Buildings & Other.....	-6.8	2.4	-20.5	-7.4	-2.1	17.0	13.1	-8.0
Offices.....	-20.7	-7.7	-22.8	-24.1	12.7	19.3	17.9	-12.0
Stores & Warehouses..	10.1	-5.9	-23.9	3.0	-19.5	41.0	22.6	-2.4
Industrial.....	-16.9	19.4	-47.3	10.0	-1.4	2.1	11.1	-15.3
Institutional.....	-6.0	35.2	23.4	-9.1	-5.0	-3.4	-5.0	1.4
Educational.....	-20.7	115.0	192.2	-14.6	-54.3	-4.4	14.8	14.4
Religious.....	5.4	23.2	-26.4	0.7	24.0	14.6	9.3	9.0
Hospitals.....	-5.8	19.8	8.1	-10.6	15.6	-8.1	-14.2	-5.7
All Other.....	2.5	3.6	-6.6	-6.0	11.4	15.5	4.1	-8.1
Public Utilities.....	-11.1	-9.2	-13.0	24.8	33.5	-1.5	-0.8	-0.3
Telephone & Telegraph	-7.8	-3.2	-21.3	10.8	12.8	9.4	2.8	9.0
Mining & Petroleum.....	-50.4	51.6	21.6	3.3	71.4	15.5	-11.5	-33.6

miscellaneous companies. Conversely, household appliance and electrical industrial apparatus makers plan cuts of 8.1% and 7.1%, respectively, in 1988.

Nonelectrical machinery industries forecast a more modest 5.2% rise in investment next year. As in the electrical industry, a tough 1986 was followed by a slight turnaround in 1987, with modernization and expansion anticipated in 1988. Investment hikes by makers of special, general refrigeration, and service industry machinery will lead the way. Construction, mining, and materials-handling equipment companies also plan strong increases. Computer makers foresee only a slight rise next year, while engine and turbine producers plan no change in their investment strategy. The outlook for farm and metalworking machinery makers next year is glum.

Chart 3
Investment in New Plants and Equipment, All Manufacturing Industries
(Billions of dollars)



Even though overstock still forces regular inventory clearout sales, Detroit seems to believe its excess capacity problems have been solved after two years of investment cuts. Auto, truck, and parts companies anticipate a 15.7% capital investment jump in 1988. Elsewhere within durables next year, double-digit investment gains are expected in the aerospace; instrument; nonferrous metals; and stone, clay, and glass industries.

For nondurable goods manufacturers (excluding petroleum refiners), 1986 was the sales turnaround year the sector needed. Moreover, sales, profits, and operating rates look even better for 1987. Again in DRI's latest survey, respondents noted aggressive capital investment plans for this year and next. Chemicals have been one of the healthiest nondurable industries over the last few years, and with their rare trade surplus still growing, they seem disinclined to curtail their investment momentum; a 12.8% spending boost in 1988 will be supported by growth in all specialty chemical industries, especially synthetics and consumer soaps and toiletries.

With the stabilization of crude oil prices, the difficulties of 1986 and early 1987 have finally passed for petroleum refiners. Following their estimated 3.4% rebound in 1987, refiners report a cautious investment increase of 2.8% in 1988.

Table 3
Durables Indicators
(Billions of dollars)

	Quarterly					Annual		
	86:3	86:4	87:1	87:2	87:3	1984	1985	1986
Iron & Steel								
Capacity Utilization Rate (%)	62.5	64.8	66.5	71.7	80.9	67.1	67.5	64.2
Shipments	41.3	41.0	41.2	44.8	50.1	51.3	48.1	42.6
New Orders	44.2	42.4	40.2	52.7	53.0	49.9	48.3	43.3
After-Tax Profits	-8.6	-1.9	1.4	1.6	NA	-0.4	-1.3	-3.4
Nonferrous Metals								
Capacity Utilization Rate (%)	77.7	78.6	80.1	79.2	82.2	80.5	80.6	79.0
Shipments	47.8	48.5	48.2	50.7	53.7	56.3	51.5	48.5
New Orders	47.2	49.5	48.2	53.0	55.2	55.3	51.0	47.9
After-Tax Profits	0.7	0.7	1.1	0.3	NA	-0.1	-1.0	0.8
Electrical Machinery								
Capacity Utilization Rate (%)	73.9	74.4	74.7	74.5	75.7	80.9	76.5	73.6
Shipments	208.8	215.7	214.3	218.9	228.6	187.4	192.5	205.1
New Orders	208.5	216.9	197.8	230.9	233.2	198.3	200.2	207.0
After-Tax Profits	6.1	7.9	7.9	9.7	NA	8.6	6.9	7.6
Nonelectrical Machinery								
Capacity Utilization Rate (%)	72.6	71.9	71.9	73.8	75.6	76.5	75.7	72.8
Shipments	202.2	204.1	202.4	206.1	218.7	0.0	215.0	205.2
New Orders	200.1	197.7	200.2	211.0	224.2	215.0	213.0	199.0
After-Tax Profits	6.5	5.6	3.0	12.9	NA	12.0	9.7	6.6
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	80.0	78.5	82.3	78.0	76.5	81.6	83.2	80.1
Shipments	193.7	202.5	209.0	197.5	187.9	179.7	188.6	186.0
After-Tax Profits	5.1	7.0	11.6	13.2	NA	10.6	9.1	8.4
Aerospace								
Shipments	96.4	112.6	97.1	101.5	98.3	78.8	90.8	99.0
New Orders	100.3	116.0	97.6	115.9	121.5	91.9	100.8	104.4
After-Tax Profits	3.9	-0.3	4.1	4.6	NA	3.6	3.3	3.1
Fabricated Metals								
Capacity Utilization Rate (%)	76.9	77.8	77.4	77.6	77.6	76.6	78.7	77.7
Shipments	136.0	135.2	136.3	134.5	132.1	135.9	139.6	136.0
New Orders	133.8	136.3	134.7	135.4	134.0	136.9	137.5	135.0
After-Tax Profits	2.8	2.5	2.1	5.1	NA	4.6	3.4	3.2
Instruments								
Capacity Utilization Rate (%)	78.7	78.2	78.1	78.8	79.1	84.4	82.5	79.5
Shipments	60.8	62.5	61.2	62.7	63.9	59.4	61.0	60.8
New Orders	61.3	61.5	62.1	63.9	65.3	60.0	60.9	60.5
After-Tax Profits	4.0	-1.9	3.9	4.2	NA	4.2	3.6	1.1
Stone, Clay & Glass								
Capacity Utilization Rate (%)	82.2	82.6	83.4	81.7	80.3	82.0	81.3	82.8
Shipments	56.0	57.4	60.9	59.9	59.4	53.4	55.1	56.9
New Orders	56.1	57.0	60.7	59.7	60.2	53.8	55.3	56.7
After-Tax Profits	2.6	2.5	2.6	3.4	NA	1.9	1.6	2.1

Note: Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Both the paper and food products industries have high hopes for next year. With plants running near capacity and shipments and profits up, paper makers plan to boost investment nearly 25% in 1988. Sales by food and beverage firms are also rising rapidly, although their operating rate is hovering at about 80%. Still, this industry reports an aggregate investment increase of 14.2% next year.

Textile makers reported one of the few cutbacks in 1988. While shipments are up for 1987, profits are still being squeezed by intense foreign competition. The survey indicates a perhaps overly pessimistic cut of 8.7% for next year.

In nonmanufacturing, only the electric utility and communications industries reported cutbacks. Communications companies are still in the midst of intense rivalry as most players look for ways to keep costs down in a very unsettled market. Electric utilities continue to face ample excess generating capacity that needs to be digested prior to any large spending increases.

Elsewhere within the nonmanufacturing sector, mining and drilling companies anticipate a 20.2% capital spending hike, largely a result of the return to profitability of oil drilling and exploration. Airlines also plan a large investment increase in 1988, although this could be an overly optimistic projection in an industry

Chart 5
Investment in New Plants and Equipment, All Nonmanufacturing Industries
(Billions of dollars)

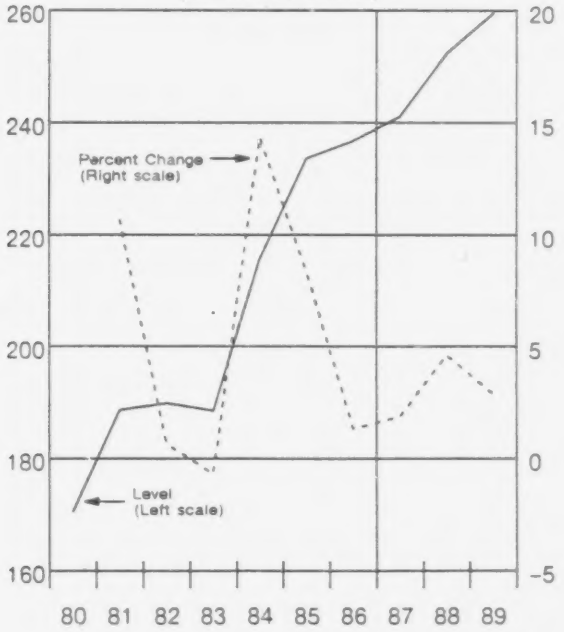


Table 4
Nondurables Indicators
(Billions of dollars)

	Quarterly					Annual		
	86:3	86:4	87:1	87:2	87:3	1984	1985	1986
Chemicals								
Capacity Util. Rate (%)	79.8	80.2	80.9	81.9	83.6	76.8	78.0	79.7
Shipments	197.0	199.7	205.7	212.7	217.0	198.3	196.9	198.1
After-Tax Profits	15.4	8.6	17.0	15.5	NA	13.9	9.5	12.9
Paper								
Capacity Util. Rate (%)	92.8	93.3	92.5	92.8	96.7	91.1	88.7	92.2
Shipments	106.5	110.1	112.8	115.1	121.9	94.8	93.4	103.8
After-Tax Profits	3.3	3.8	4.0	4.8	NA	3.0	2.9	3.3
Rubber & Plastics								
Capacity Util. Rate (%)	85.3	85.7	85.2	87.3	87.8	89.8	86.7	85.0
Shipments	70.8	72.8	78.8	78.7	76.0	69.5	71.3	72.2
After-Tax Profits	3.3	1.2	3.3	3.6	NA	2.3	1.6	2.1
Petroleum								
Capacity Util. Rate (%)	85.3	84.9	84.8	84.4	84.7	80.1	80.6	85.3
Shipments	117.4	115.1	121.2	128.8	138.4	189.1	179.1	129.4
After-Tax Profits	1.5	6.2	11.3	17.7	NA	17.2	12.7	8.8
Food & Beverage								
Capacity Util. Rate (%)	80.2	80.0	79.9	79.9	80.4	80.5	80.3	80.3
Shipments	318.7	323.8	323.9	331.7	337.0	300.0	301.6	314.5
Textiles								
Capacity Util. Rate (%)	88.4	89.7	88.5	92.7	94.4	85.5	83.3	88.0
Shipments	55.5	56.0	55.0	55.8	58.0	55.5	53.2	54.6
After-Tax Profits	1.7	2.0	1.5	1.5	NA	1.6	1.2	1.7

Note: Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

struggling for profitability and stability. Gas utilities remain stubbornly optimistic despite weak sales, planning to raise investment 10.2% in 1988.

Respondents also reported an aggregate capital spending uptick of 0.4% in 1989. This projection is obviously too tentative to be given much consideration.

Confidence is an important element in investment spending, just as it is in consumption. If Black Monday severely damaged business confidence, capital spending could be much weaker than projected in this survey. Based on anecdotal evidence, businesses do not appear to have scaled back their spending plans, intending to wait and see how the economy progresses. If consumers react very little to their loss of wealth, investment spending could remain unscathed.

Table 5
Nonmanufacturing Indicators

	Quarterly					Annual		
	86:3	86:4	87:1	87:2	87:3	1984	1985	1986
Mining								
Bituminous Coal Production --Thousand short tons	870,288	889,548	883,620	869,980	925,840	891,760	878,930	886,022
Oil & Gas Well Footage Drilled --Thousands of feet	112,021	71,719	NA	NA	NA	363,850	307,719	146,537
Refiners' Acquisition Price of Oil--Dollars	12.35	13.36	16.57	17.73	18.58	28.53	26.66	14.81
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	873.2	886.4	905.6	922.0	NA	921.8	875.8	874.5
New Freight Cars, Unfilled Orders --Thousands of cars	3.7	2.7	3.9	5.4	NA	5.2	1.8	2.7
Airlines								
Passenger-Miles Revenue--Billions	409.7	351.2	NA	NA	NA	298.2	331.7	363.0
Passenger Load Factor--(%)	63.6	57.9	NA	NA	NA	59.1	61.4	60.2
Electric Utilities								
Electricity Output --Billions of kw-hr	2,511	2,517	2,461	2,598	2,614	2,417	2,470	2,487
Electric Utility Revenues --Millions of dollars	172,848	145,082	148,825	147,031	NA	142,259	149,373	153,044
Gas Utilities								
Natural Gas Sales--Trillion btu	6,620	11,037	16,051	8,229	NA	13,335	12,724	10,840
Gas Utility Revenues --Millions of dollars	27,430	50,676	69,672	NA	NA	67,510	63,316	50,286
Communications								
Commercial Construction --Billions of 1982 dollars	47.8	47.0	44.0	42.7	42.1	44.3	53.1	49.2
Consumer Spending on Financial Services --Billions of 1982 dollars	99.3	100.0	100.9	101.3	102.5	91.3	95.5	99.0
Trade and Services								
Retail Sales--Billions of dollars, SA	1,485.3	1,485.6	1,469.8	1,504.5	1,540.4	1,286.1	1,378.8	1,453.2
Consumer Spending On Personal & Business Services	350.7	353.6	366.0	364.5	368.2	310.7	336.6	352.3
Medical Services --Billions of 1982 dollars	252.3	256.3	258.7	262.0	265.1	232.0	240.8	251.9

FOLLOW-UP SURVEY

In an effort to closely track the after-effects of the equity market crisis on business investment plans, DRI is planning a follow-up phone survey of all respondents in mid-December. To receive the results, please return the accompanying reply card.

NOTES ON THE SURVEY

The results discussed here are based on the responses of 546 firms to the DRI/McGraw-Hill survey taken in September and October. These firms account for 19% of all 1986 capital spending in the country (Table X). Firms supplied current-dollar estimates of future capital spending as well as actual investment in 1986.

From these responses, percentage changes for 1987, 1988, and 1989 were calculated. Firms with a disproportionate share of the sample's capital spending and/or extreme percentage changes were removed from the sample when calculating industry growth rates. These growth rates were then applied to the prior period's level of the population, excluding outliers. Spending by outliers for the current period is then added back in. In cases where a growth rate is provided, individual responses are weighted by the firm's share of the sample's capital spending. Extreme responses are removed from the sample when computing industry answers.

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Note: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending

Industry	Level				Percent Change		
	1986	1987	1988	1989	1987	1988	1989
Iron & Steel	3.32	4.60	5.10	3.95	38.5	10.9	-22.5
Nonferrous Metals	1.93	2.02	2.54	2.42	4.5	25.9	-4.6
Electrical Machinery	14.17	14.82	16.51	16.31	4.6	11.4	-1.2
Nonelectrical Machinery	13.61	14.04	14.77	12.56	3.2	5.2	-14.9
Autos, Trucks & Parts	13.95	12.20	14.12	13.83	-12.6	15.7	-2.0
Aerospace	3.80	3.80	4.26	3.26	-0.1	12.2	-23.5
Fabricated Metals	4.01	3.67	3.77	3.65	-8.3	2.7	-3.3
Instruments (a)	2.47	2.55	2.86	3.04	3.1	12.4	6.4
Stone, Clay & Glass	3.14	3.16	3.82	3.69	0.5	21.0	-3.6
Other Durables (a)	8.73	9.40	9.62	9.86	7.6	2.4	2.5
TOTAL DURABLES	69.14	70.25	77.38	72.58	1.6	10.1	-6.2
Chemicals	16.82	18.07	20.38	21.07	7.5	12.8	3.4
Paper & Pulp	8.77	9.29	11.58	10.60	6.0	24.6	-8.5
Rubber & Plastic (b)	3.89	3.45	4.06	4.31	-11.4	17.7	6.3
Petroleum	17.92	18.52	19.05	20.97	3.4	2.8	10.1
Food & Beverage	10.60	12.27	14.02	14.13	15.8	14.2	0.8
Textiles	1.67	1.78	1.62	1.61	6.5	-8.7	-0.7
Other Nondurables	13.90	16.40	15.13	12.56	18.0	-7.8	-17.0
TOTAL NONDURABLES	73.55	79.78	85.83	85.24	8.5	7.6	-0.7
ALL MANUFACTURING	142.70	150.03	163.20	157.82	5.1	8.8	-3.3
Mining	11.22	10.94	13.16	13.06	-2.5	20.2	-0.7
Railroads	6.66	6.23	6.84	6.69	-6.5	9.9	-2.3
Airlines (c)	6.26	7.37	8.81	9.61	17.8	19.7	9.0
Other Transportation	5.89	6.22	8.40	8.04	5.6	35.1	-4.3
Electric Utilities	33.90	31.48	30.02	26.41	-7.1	-4.7	-12.0
Gas & Other Utilities	12.48	13.16	14.50	16.11	5.4	10.2	11.1
Communications	32.93	32.86	31.91	31.72	-0.2	-2.9	-0.6
Trade & Services (b)	127.43	132.93	138.69	147.92	4.3	4.3	6.7
ALL NONMANUFACTURING	236.76	241.18	252.33	259.55	1.9	4.6	2.9
ALL BUSINESS	379.46	391.21	415.53	417.36	3.1	6.2	0.4

a. Historical data for the instruments series is taken from the Census Bureau's Survey of Manufacturers. Data for 1986 was estimated using the November 1986 McGraw-Hill Survey. The other durables category is redefined to have components' sum equal total durables.
b. DRI estimates.
c. DRI estimate for 1989.

Table II
Inflation Expectations
(Billions of dollars)

Industry	Expected %Change, 1987-88	
	Plant & Equipment Prices	Product Prices
Iron & Steel.....	2.6	1.7
Nonferrous Metals.....	1.7	0.6
Electrical Machinery...	1.8	0.2
Nonelectrical Machinery	3.8	3.4
Autos, Trucks & Parts..	4.7	2.5
Aerospace.....	5.0	3.0
Fabricated Metals.....	4.1	3.6
Instruments.....	3.5	2.6
Stone, Clay & Glass....	4.0	2.7
Other Durables.....	4.3	4.4
TOTAL DURABLES.....	3.5	2.4
Chemicals.....	4.5	2.6
Paper & Pulp.....	4.0	5.2
Rubber & Plastic.....	5.1	5.4
Petroleum.....	4.1	0.0
Food & Beverage.....	4.1	3.3
Textiles.....	3.9	0.8
Other Nondurables.....	5.4	5.0
TOTAL NONDURABLES.....	4.5	3.0
ALL MANUFACTURING.....	4.0	2.7
Mining.....	5.5	1.1
Railroads.....	3.3	2.3
Airlines.....	6.0	NA
Other Transportation...	3.4	2.7
Electric Utilities.....	4.2	2.6
Gas & Other Utilities..	3.7	-0.9
Communications.....	3.4	1.5
Trade & Services.....	4.5	4.6
TOTAL NONMANUFACTURING..	4.3	3.3
ALL BUSINESS.....	4.2	3.1

Table III
Sales Expectations
(Billions of dollars)

Industry	1987 Estimated*	1988 Expected	1987-88 % Change
Iron & Steel.....	45.2	43.4	-4.1
Nonferrous Metals.....	54.3	56.1	3.5
Electrical Machinery...	215.3	221.5	2.8
Nonelectrical Machinery	204.0	220.5	8.1
Autos, Trucks & Parts..	202.7	213.7	5.4
Aerospace.....	99.3	110.8	11.6
Fabricated Metals.....	145.8	167.4	14.8
Instruments.....	65.5	67.9	3.5
Stone, Clay & Glass....	60.8	63.2	4.0
Other Durables.....	167.9	179.9	7.1
TOTAL DURABLES.....	1,260.9	1,344.4	6.6
Chemicals.....	212.1	226.6	6.8
Paper & Pulp.....	113.6	122.6	7.9
Rubber & Plastic.....	81.1	93.8	15.7
Petroleum.....	135.3	155.6	15.0
Food & Beverage.....	336.2	369.8	10.0
Textiles.....	57.6	60.1	4.4
Other Nondurables.....	211.2	224.6	6.3
TOTAL NONDURABLES.....	1,147.2	1,253.2	9.2
ALL MANUFACTURING.....	2,408.1	2,597.6	7.9
Mining.....	NA	NA	64.6
Railroads.....	NA	NA	1.7
Airlines.....	NA	NA	NA
Other Transportation...	NA	NA	6.8
Electric Utilities.....	NA	NA	3.3
Gas Utilities.....	NA	NA	-0.7
Communications.....	NA	NA	4.9
Trade & Services.....	NA	NA	9.6

*Estimates based on spring survey.

Table IV
Real Sales Expectations
(Billions of 1986 dollars)

Industry	1987 Estimated	1988 Expected	1987-88 % Change
Iron & Steel	45.2	43.4	-5.7
Nonferrous Metals	54.3	56.1	2.8
Electrical Machinery	215.3	221.5	2.7
Nonelectrical Machinery	204.0	220.5	4.5
Autos, Trucks & Parts	202.7	213.7	2.9
Aerospace	99.3	110.8	8.3
Fabricated Metals	145.8	167.4	10.8
Instruments	65.5	67.9	1.0
Stone, Clay & Glass	60.8	63.2	1.3
Other Durables	167.9	179.9	2.6
TOTAL DURABLES	1,260.9	1,344.4	3.9
Chemicals	212.1	226.6	4.1
Paper & Pulp	113.6	122.6	2.6
Rubber & Plastic	81.1	93.8	9.7
Petroleum	135.3	155.6	15.0
Food & Beverage	336.2	369.8	6.5
Textiles	57.6	60.1	3.6
Other Nondurables	211.2	224.6	1.2
TOTAL NONDURABLES	1,147.2	1,253.2	5.8
ALL MANUFACTURING	2,408.1	2,597.6	4.8
Mining	NA	NA	63.4
Railroads	NA	NA	-0.6
Airlines	NA	NA	NA
Other Transportation	NA	NA	4.0
Electric Utilities	NA	NA	0.8
Gas Utilities	NA	NA	0.2
Communications	NA	NA	3.4
Trade & Services	NA	NA	5.0

Table V
Capital Spending in the Petroleum Industry
(Millions of dollars)

Function	Level				Percent Change		
	1986	1987	1988	1989	1987	1988	1989
Exploration and Production	19,775	21,199	18,702	29,702	7.2	-11.8	58.8
Refining	2,478	2,079	2,139	2,206	-16.1	2.9	3.1
Petrochemicals	861	1,012	NC	NC	17.6	NC	NC
Transportation (a)	3,815	1,805	1,628	1,432	-52.7	-9.8	-12.0
Marketing	3,526	4,352	4,858	4,795	23.4	11.6	-1.3
Other (b)	4,074	4,269	4,390	4,381	4.8	2.8	-0.2
TOTAL	34,529	34,715	32,729	43,528	0.5	-5.7	33.0

a. Includes oil pipelines; does not include gas pipelines.
b. Includes coal mining.

Table VI
Capital Spending in the Mining Industry
(Millions of dollars)

Industry	Level				Percent Change		
	1986	1987	1988	1989	1987	1988	1989
Nonmetallic....	1,067	1,006	1,129	952	-5.7	12.2	-15.7
Nonferrous.....	865	742	775	746	-14.2	4.4	-3.7
Iron Ore.....	101	182	NC	NC	80.0	NC	NC
Coal.....	3,361	3,764	4,082	3,415	12.0	8.4	-16.3
MINING INDUSTRY	5,394	5,694	6,168	5,295	5.6	8.3	-14.2

Table VII
Capital Spending in the Chemical Process Industr
(Billions of dollars)

Industry	1986	1987	1988	1989
Chemicals.....	16.82	18.07	20.38	21.07
Petrochemicals (a).	0.86	1.01	NC	NC
Paper & Pulp.....	8.77	9.29	11.58	10.60
Rubber & Plastics..	3.89	3.45	4.06	4.11
Stone, Clay & Glass	3.14	3.16	3.82	1.69
Petroleum Refining.	2.48	2.08	2.14	2.21
Nonferrous Metals..	1.93	2.02	2.54	2.42
Coal Products.....	0.78	0.87	0.95	0.79
Food & Beverage....	2.86	3.31	3.78	3.81
Textiles.....	0.33	0.36	0.32	0.32
Other CPI.....	1.29	1.52	1.40	1.17
TOTAL CPI.....	43.16	45.14	51.98	51.40

a. Petrochemical expenditures are for the petroleum industry alone.

Table VIII
Capital Spending Plans in the Energy Industries
(Millions of dollars)

Industry	1986	1987	1988	1989
Coal Mining (a).....	3,361	3,764	4,082	3,415
Electric Utilities.....	33,903	31,484	30,018	26,408
Gas Utilities.....	12,480	13,157	14,498	16,107
Petroleum Industry.....	34,529	34,715	32,729	43,528
Exploration & Production	19,775	21,199	18,702	29,702
Transportation.....	3,815	1,805	1,628	1,432
Refining.....	2,478	2,079	2,139	2,206
Petrochemicals.....	861	1,012	NC	NC
Marketing.....	3,526	4,352	4,858	4,795
Other (a).....	4,074	4,269	4,390	4,381
Total Energy Industries...	84,273	83,120	81,327	89,458
Total All Industries.....	379,460	391,215	415,532	417,361
Energy Share (%).....	22	21	20	21

a. There is some duplication of investment in other petroleum and coal mining.

Table IX
Detailed Industry Data from the November Survey

Industry	Capital Spending % Change 1987	1988	1989
Durables			
Iron & Steel (a)	77.0	13.3	-14.4
Nonferrous Metals (a)	5.3	-0.4	-12.2
Primary Nonferrous Metals	9.3	-0.5	-12.2
Nonferrous Rolling and Drawing	-24.7	NC	-28.0
Electrical Machinery (a)	0.0	19.0	0.0
Electric Distributing Equipment	-6.9	8.8	-2.2
Electrical Industrial Apparatus	7.7	-7.1	15.4
Household Appliances	94.5	-8.1	-19.9
Electric Lighting and Wiring	14.8	7.5	-16.6
Communication Equipment	1.0	20.5	-0.1
Electronic Components	-34.4	8.2	6.7
Misc. Electrical	-2.8	13.3	10.1
Nonelectrical Machinery (a)	2.7	2.4	-15.0
Engines and Turbines	-64.3	0.0	50.0
Farm Equipment	10.3	-7.4	-16.3
Construction, Mining, Materials Handling Eq.	-20.0	75.2	-43.3
Metalworking Machinery	5.3	-7.4	-10.2
Special Industry Machinery	13.2	319.8	-33.7
General Industrial Machinery	6.6	17.4	-12.8
Office, Computing Machinery	1.5	1.5	-3.5
Refrigeration and Service Industry Machinery	19.9	54.3	-15.6
Autos, Trucks & Parts (a)	-21.2	6.7	-4.1
Aerospace (a)	-1.4	10.9	-10.0
Fabricated Metals (a)	-8.4	2.1	-3.3
Metal Cans	12.5	11.1	20.0
Cutlery, Hand Tools, Hardware	7.3	9.7	3.3
Plumbing and Heating Eq.	70.0	1,100.0	-95.3
Fabricated Structural Metal	-25.9	-1.2	-9.8
Screw Machine Products	25.0	20.0	8.3
Misc. Fabricated Metals	2.7	-1.0	-3.1
Instruments (a)	2.6	12.7	10.0
Engineering & Scientific Instruments	-4.7	57.2	3.0
Measuring and Controlling Devices	111.1	84.2	-42.9
Optical Instruments and Lenses	-22.2	14.3	25.0
Medical Instruments and Supplies	6.3	5.9	1.4
Stone, Clay & Glass (a)	-11.2	31.0	-15.3
Flat Glass	35.9	-8.3	28.8
Products of Purchased Glass	-19.8	45.3	-20.2
Cement, Hydraulic	42.0	-11.6	17.9
Structural Clay Products	11.1	-5.1	28.6
Concrete, Gypsum, Plaster	-13.5	35.5	-8.3
Misc. Nonmetallic Mineral Products	4.5	7.9	0.0
Other Durables (a)	33.0	1.9	2.2
Lumber	48.1	0.0	-5.7
Furniture	-16.0	-12.4	-8.9
Ships & Boats	27.1	16.7	3.1
Railroad Equipment	54.8	-24.5	29.9
Transportation Eq. NEC	0.0	0.0	0.0
Nondurables			
Chemicals (a)	16.6	14.9	1.0
Industrial Inorganic Chemicals	-9.0	13.1	-0.8
Plastics Materials and Synthetics	21.3	54.5	5.9
Drugs	23.8	12.4	3.2
Soap, Cleaners, & Toilet Goods	-4.5	37.5	-39.1
Paints	6.1	NC	-12.5
Misc. Chemicals	1.6	0.0	NA
Paper & Pulp (a)	-28.6	23.6	-12.3
Converted Paper Prod.	115.4	-16.0	-33.3
Paperboard Containers	9.1	50.0	11.1
Rubber & Plastics (a)	65.2	46.6	-20.1
Miscellaneous Plastics Products	-26.4	22.8	8.1
Petroleum (a)	3.0	2.3	11.5

Table IX
(Continued)

Industry	Capital Spending % Change 1987	1988	1989
Food & Beverage (a)	14.8	13.9	0.7
Meat Products	17.5	67.1	4.8
Dairy Products	15.7	42.9	0.0
Preserved Fruits and Vegetables	36.2	2.9	-5.6
Grain Mill Products	44.1	12.7	5.6
Bakery Products	-5.6	-5.9	-6.3
Sugar Products	0.0	50.0	52.4
Beverages	4.7	0.4	-16.7
Misc. Food	140.8	19.0	NA
Textiles (a)	44.7	-38.9	4.9
Knitting Mills	54.4	-27.0	4.9
Yarn and Thread Mills	20.0	55.6	NA
Other Nondurables (a)	29.2	5.3	-11.9
Tobacco	46.6	-4.7	-29.6
Apparel	18.9	41.0	-18.2
Printing and Publishing	28.1	6.9	-9.0
Leather	35.6	11.1	4.4
Nonmanufacturing			
Mining (a)	-15.2	20.3	4.0
Metal Mining	-5.0	8.8	-10.1
Anthracite	-36.3	22.7	22.2
Coal Mining	-36.3	22.7	22.2
Bituminous Coal	-8.4	2.6	16.5
Oil & Gas Extraction	-16.5	43.1	7.7
Oil Well Services	-50.4	31.4	17.1
Stone & Earth Minerals	18.3	14.8	-18.4
Railroads (a)	-7.0	8.9	-2.6
Airlines (a)	17.8	19.7	NC
Other Transportation (a)	1.1	32.9	-10.0
Trucking and Warehousing	1.1	40.1	-10.0
Pipelines	80.7	-47.5	-11.8
Freight Trans., Rail Car Rent	293.3	92.9	27.1
Electric Utilities (a)	-6.5	-5.4	-9.7
Gas Utilities (a)	13.1	-2.5	6.4
Communications (a)	-0.3	-2.9	-0.5
Telephone Communications	-2.1	-4.1	-1.2
Trade & Services (a)	22.4	11.0	1.2
General Building Contractors	0.1	32.2	-6.3
Heavy Construction Contractors	15.4	-6.9	17.5
Retail and Whole. Trade	15.2	10.1	-10.8
Hardware, Plumbing Eq.--Whole	88.7	12.0	-35.2
General Merchandise Stores	5.1	7.8	5.4
Food Stores	57.9	13.3	-11.0
Finance	9.7	11.7	-5.6
Insurance Carriers	19.9	1.7	0.4
Personal & Business Services	21.2	9.1	6.4
Hotels and Motels	-29.1	49.9	-38.6
Business Services	27.1	12.8	-14.2
Computer and Data Processing Services	-37.5	-96.0	-60.0
Miscellaneous Business Services	43.5	20.1	-17.9
Amusement & Recreations Services	30.8	NC	0.0
Health Services	51.2	-10.5	3.7
Educational Services	25.0	25.0	0.0
Miscellaneous Professional Services	75.2	-29.8	-2.0

a. Percentage changes in this report are different from those reported in Table I because of the treatment of outliers. In Table I, the dollar spending of outliers is reincluded when going from sample percentage change to the level of industry spending.

Table X
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	9.6
Nonferrous Metals	42.9
Electrical Machinery	35.1
Nonelectrical Machinery	20.2
Autos, Trucks & Parts	78.9
Aerospace	72.7
Fabricated Metals	13.9
Instruments	60.1
Stone, Clay & Glass	27.1
Other Durables	7.6
TOTAL DURABLES	37.9
Chemicals	16.9
Paper & Pulp	7.0
Rubber & Plastic	1.9
Petroleum	40.2
Food & Beverage	17.7
Textiles	16.1
Other Nondurables	3.9
TOTAL NONDURABLES	18.2
ALL MANUFACTURING	27.8
Mining	11.2
Railroads	36.0
Airlines	3.2
Other Transportation	3.2
Electric Utilities	53.7
Gas & Other Utilities	13.0
Communications	15.2
Trade & Services	2.4
TOTAL NONMANUFACTURING	13.5
ALL BUSINESS	18.9

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NO. G _____
GENERAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U. S. only. The survey applies to non-manufacturing as well as manufacturing companies, and covers expenditures in areas such as computers, office furniture, office construction and oil drilling as well as industrial purchases of items like machine tools.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

NOV007

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NO. A _____
AUTO

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

CONFIDENTIAL

NO. CH _____
CHEMICALS

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Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

a. Please indicate the division between:

	1986	1987	1988	1989
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

NOV002

CONFIDENTIAL

NO. IC _____
IRON & STEEL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under iron mining, please include beneficiation.)

	1986	1987	1988	1989
Manufacturing	$_____	$_____	$_____	$_____
Iron Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

NOV006

CONFIDENTIAL

NO. M _____
MINING

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all mineral processing.)

	1986	1987	1988	1989
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

NOV004

CONFIDENTIAL

NO. N _____
NONFERROUS METALS

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all operations including smelting and refining.)

	1986	1987	1988	1989
Manufacturing	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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(Please return by November 6, 1987)

CONFIDENTIAL

NO. P _____
PETROLEUM

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1987-89

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987, 1988, and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1986, please report spending on a comparable basis for all years.)

1986	1987	1988	1989
$	$	$	$

a. Please indicate the division between:

	1986	1987	1988	1989
Exploration & Prod.	$_____	$_____	$_____	$_____
Refining	$_____	$_____	$_____	$_____
Petrochemicals	$_____	$_____	$_____	$_____
Transportation	$_____	$_____	$_____	$_____
Marketing	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

b. How many net wells (i.e., sum of financial interest of gross wells in which you participate) did (will) you drill in 1986-88 in search of oil and gas ?
1986 _____
1987 _____
1988 _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1988 vs. 1987 ? _____ %

If company policy prevents you from answering the following questions, please skip them and return the questionnaire

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1988 vs. 1987 ? _____ %

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1988 vs. 1987 ? _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

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NOV005

(Please return by November 6, 1987)

C5805-1-2-4

DRI Data Resources

24 Hartwell Avenue
Lexington, Massachusetts 02173
Telephone 617/863-5100

March 1988

THE DRI/McGRAW-HILL ANNUAL CAPITAL SPENDING CHECKUP SURVEY

Whatever the financial and political fallout from Wall Street's October meltdown, America's industrial planners see no reason to reduce their investment plans. An overwhelming 91% of the respondents to the March Capital Spending Checkup Survey answered no when asked if their company had trimmed spending plans as a direct result of the October 19 crash. Less than 2% answered yes; the remainder did not respond.

In fact, the capital spending plans reported in Data Resources' March survey of U.S. businesses surpass those reported in last fall's survey, taken before the crash. According to the checkup survey, businesses plan to boost aggregate investment in plant and equipment 8.8% in 1988, to $419.0 billion (Table I*). In the fall 1987 survey, respondents foresaw a 6.2% rise, to $415.5 billion.

Respondents have also grown less fearful of inflation. While the fall survey forecast a 4.2% rise in the price of plant and equipment in 1988, the March survey projects a 3.8% hike (Table II). This downward revision of inflation expectations, combined with the upward shift in capital budgets, raises "real" (inflation-adjusted) investment projections. Assuming both expectations are realized, real spending will increase 4.8% in 1988. In contrast, the November survey projected an inflation-adjusted rise of only 2.0%.

By major business sector, nondurable manufacturers expressed the most confidence, targeting a 15.4% spending increase in 1988. While all nondurable industries showed healthy gains, the chemical, paper, food, and petroleum industries reported double-digit advances. Because 1987 was slightly tougher for durable manufacturers, their spending plans reveal a somewhat less ambitious aggregate rise of 9.5%, but only Detroit's automotive industry anticipates cutbacks in 1988. Nonmanufacturers predicted an increase

*Tables denoted by Roman numerals appear at the end of this report.

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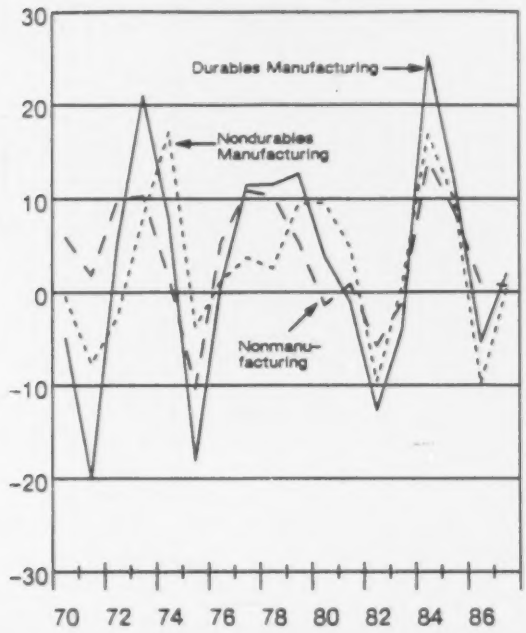
Chart 1
Real Plant and Equipment Purchases
(Percent change)



of only 6.6%, largely because of cautiousness in the huge trade and services component. Only the "other" category in the transportation industry showed a downturn in 1988 spending.

These are the key findings of DRI/McGraw-Hill's Capital Spending Checkup Survey. The survey was conducted from January through March and drew responses from 457 companies that account for more than 20% of plant and equipment spending in the United States (Table IX). Figures in this report are adjusted to represent spending by all U.S. companies and reflect domestic investment only.

SPENDING PRIORITIES

In addition to requesting total capital spending plans, the checkup survey asked companies for a percentage breakdown of spending allocations among broad categories of plant and equipment. These categories are computers and other office equipment (Table III), manufacturing and other machinery (Table IV), autos and trucks (Table V), factories and nonoffice facilities (Table VI), and office buildings (Table VII). Spending not included in any of these categories was listed as "other" and is not reported separately. (A full set of questionnaires appears at the end of this report).

According to the results, the U.S. computer industry could see further improvement in sales in 1988. The companies surveyed plan to increase spending on computers and office machinery some 13.9% this year,

Table 1
Capita' Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	86:4	87:1	87:2	87:3	87:4	1985	1986	1987
Total Equipment	318.5	305.6	317.5	336.6	334.4	304.8	313.5	323.5
Information Processing & Related Eq.	135.4	128.5	132.4	146.1	142.2	120.5	128.7	137.3
Office & Computing Machinery	75.1	70.9	73.7	84.1	82.5	66.4	71.9	77.8
Communication Equipment	35.6	34.0	34.6	37.2	35.3	31.3	33.0	35.3
Scientific & Engineering Inst.	12.8	12.2	12.4	12.7	12.5	11.6	12.2	12.4
Photocopy & Related Equipment	11.9	11.4	11.7	12.1	11.8	11.3	11.6	11.7
Industrial Equipment	52.6	51.7	51.5	53.2	55.0	51.0	51.5	52.9
Fabricated Metals	7.5	7.6	7.4	7.1	7.2	8.0	7.6	7.3
Metalworking Machinery	14.7	14.4	14.4	14.1	14.7	14.7	14.8	14.4
Special Industrial Eq.	14.0	14.3	14.2	15.3	17.0	11.9	13.2	15.2
General Industrial Eq.	16.3	15.4	15.6	16.7	16.1	16.5	15.8	15.9
Transportation Equipment	57.8	53.5	59.8	60.4	58.7	61.5	60.9	58.1
Trucks, Buses & Trailers	26.5	27.3	29.6	30.3	29.9	29.5	27.8	29.3
Autos	17.3	13.0	15.2	16.0	15.4	19.2	18.5	14.9
Aircraft	11.3	11.2	12.8	11.5	11.1	10.0	12.2	11.7
Ships & Boats	1.5	0.8	0.8	0.8	0.8	1.4	1.2	0.8
Railroad Equipment	1.2	1.2	1.2	1.7	1.5	1.4	1.2	1.4
Energy and Related Eq.	16.6	15.4	16.0	16.5	17.0	16.6	15.8	16.2
Engines & Turbines	2.3	1.1	1.3	1.4	2.0	1.7	1.7	1.5
Electrical Trans. & Dist. Eq.	11.8	11.6	11.8	12.0	11.9	11.5	11.5	11.8
Mining & Oilfield Machinery	2.6	2.7	2.9	3.1	3.1	3.4	2.6	2.9
Miscellaneous Equipment	58.1	58.5	59.9	62.7	63.6	56.8	58.6	61.2
Furniture & Fixtures	13.8	13.6	13.7	13.9	14.5	13.4	13.4	13.9
Tractors	5.0	5.2	5.2	5.7	5.5	4.9	5.2	5.4
Agricultural Machinery	5.6	6.4	6.3	7.0	6.9	5.8	5.8	6.7
Construction Machinery	9.0	8.5	9.1	9.5	9.6	9.4	10.4	9.2
Service Industry Machinery	7.2	7.4	7.7	7.5	7.9	7.6	7.4	7.6
Electrical Equipment, n.e.c.	9.1	8.7	9.0	9.2	9.3	7.0	8.1	9.0
Other Equipment	8.4	8.8	9.0	9.9	9.9	8.8	8.4	9.4
Annual Rates of Change								
Total Equipment	4.6	-15.3	16.5	26.4	-2.7	8.3	2.9	3.2
Information Processing & Related Eq.	20.8	-18.8	12.5	48.4	-10.3	19.8	6.8	6.7
Office & Computing Machinery	22.8	-20.2	16.5	69.8	-7.5	35.1	8.4	8.2
Communication Equipment	21.7	-16.8	7.7	32.9	-18.8	6.7	5.5	7.0
Scientific & Engineering Inst.	23.2	-17.9	5.6	10.4	-4.6	11.7	5.8	1.6
Photocopy & Related Equipment	4.8	-17.1	9.8	15.3	-8.3	-4.3	2.5	1.6
Industrial Equipment	11.1	-6.5	-1.0	13.3	14.7	3.7	0.9	2.7
Fabricated Metals	-3.5	2.6	-9.2	-14.1	7.6	-2.1	-4.2	-4.0
Metalworking Machinery	2.5	-9.3	1.1	-10.1	21.0	7.1	0.9	-2.8
Special Industrial Eq.	17.6	7.8	-3.7	37.8	49.9	2.4	11.3	15.2
General Industrial Eq.	21.9	-19.1	3.7	31.5	-13.7	4.6	-3.9	0.7
Transportation Equipment	-32.7	-26.7	55.3	4.2	-10.3	3.3	-1.0	-4.5
Trucks, Buses & Trailers	-32.0	12.5	39.4	9.7	-5.6	7.2	-5.8	5.4
Autos	-37.9	-68.1	86.7	21.7	-14.2	-6.8	-3.6	-19.5
Aircraft	-35.6	-3.6	71.3	-35.8	-13.3	25.2	22.0	-4.1
Ships & Boats	159.9	-93.4	34.6	4.4	0.0	-20.2	-16.2	-31.1
Railroad Equipment	-37.5	17.7	-1.6	281.8	-37.2	-14.8	-12.9	18.2
Energy and Related Eq.	44.0	-26.3	15.8	13.9	12.7	-2.6	-4.8	2.7
Engines & Turbines	590.3	-93.8	69.4	49.9	312.0	5.3	1.9	-15.3
Electrical Trans. & Dist. Eq.	18.1	-6.8	7.5	6.0	-2.7	-1.7	-0.1	2.8
Mining & Oilfield Machinery	16.7	21.0	33.8	33.9	-3.2	-8.9	-24.4	14.7
Miscellaneous Equipment	3.6	2.5	10.4	19.8	5.9	0.4	3.2	4.4
Furniture & Fixtures	11.9	-8.2	2.9	6.7	20.2	5.0	0.4	3.7
Tractors	4.5	14.7	-1.5	48.1	-13.0	-15.7	4.3	4.2
Agricultural Machinery	-4.2	78.1	-6.6	54.7	-6.8	-10.6	-0.9	15.7
Construction Machinery	-18.5	-19.0	30.5	17.4	6.9	9.9	10.1	-11.3
Service Industry Machinery	-1.1	6.9	20.4	-9.1	19.3	3.7	-2.2	3.1
Electrical Equipment, n.e.c.	43.5	-16.8	15.2	8.9	4.7	-2.3	16.2	11.6
Other Equipment	-6.9	18.5	11.6	46.6	-1.5	2.7	-3.9	11.4

Chart 2
Purchases of Computers and Office Machinery
(Billions of dollars, NIPA basis)

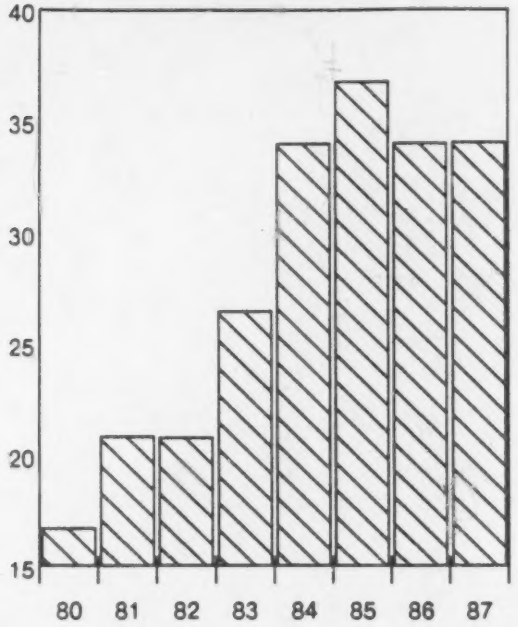
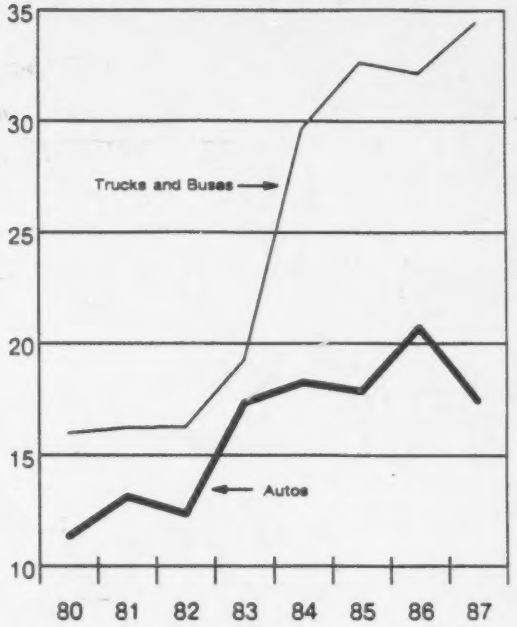


Chart 3
Purchases of Automobiles, Trucks, and Buses
(Billions of dollars, NIPA basis)



to more than $42.8 billion. The 1988 estimate represents a new record dollar volume for investment in this category, nudging the amount spent from 9.8% to 10.3% of total capital spending.

Prospects are good for investment in manufacturing equipment and other machinery. Total investment in this category should increase 9.4% in 1988. As a result, manufacturing and related machinery spending will climb from 43.1% of total spending in 1987 to 43.4% in 1988. In particular, manufacturers plan a 21.7% increase in manufacturing equipment investment, compared with nearly flat growth last year. Nonmanufacturers plan a 4.1% decline.

The manufacturing sector plans a minor 4.7% rise in auto and truck purchases in the year ahead, while the trade and service industries lead the nonmanufacturing sector to a 15.7% increase. The share spent by all businesses on autos and trucks will rise from 3.8% to 4.0% of total spending levels.

Considering that the falling dollar has spurred stronger demand for U.S. products overseas, the 8.3% decline in factory construction spending by U.S. manufacturers was perhaps the greatest surprise in the survey results. While nondurable manufacturers have benefited more than durable manufacturers, especially in terms of capacity utilization rates, their moods are radically divergent: durable manufacturers expect to slash factory spending nearly 37.3% in 1988, while nondurable manufacturers plan a 17.8%

Table 2
Nonresidential Construction
(Billions of 1982 dollars)

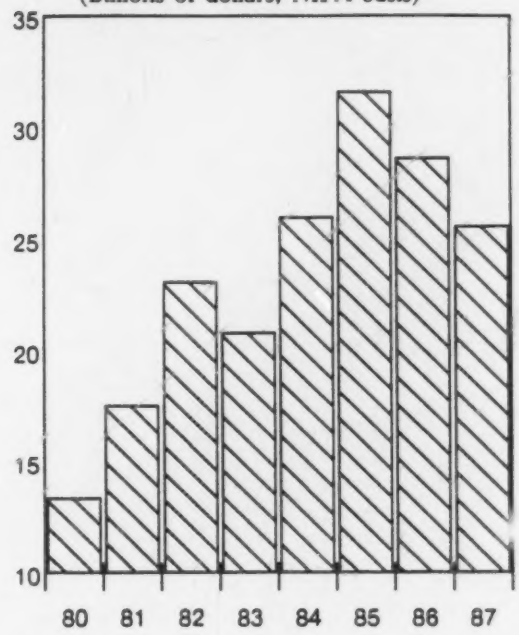
	Quarterly					Annual		
	86:4	87:1	87:2	87:3	87:4	1985	1986	1987
	Billions of 1982 dollars							
Total Structures.....	124.63	120.38	120.38	127.20	128.86	149.37	130.27	124.21
Buildings & Other.....	80.64	76.15	74.69	75.96	78.12	89.82	82.68	76.23
Offices.....	23.17	21.71	20.27	21.03	21.90	28.15	24.77	21.23
Stores & Warehouses..	23.83	22.26	22.42	22.15	22.88	25.00	24.40	22.43
Industrial.....	11.74	10.01	10.25	10.92	10.94	14.06	11.91	10.53
Institutional.....	9.17	9.66	9.44	9.36	10.27	8.62	8.74	9.68
Educational.....	1.88	2.46	2.37	2.19	2.56	1.49	1.71	2.39
Religious.....	2.44	2.26	2.26	2.27	2.15	2.15	2.34	2.23
Hospitals.....	4.85	4.94	4.81	4.90	5.56	4.98	4.69	5.05
All Other.....	12.73	12.51	12.32	12.50	12.13	13.99	12.86	12.36
Public Utilities.....	23.36	22.56	23.85	26.26	25.98	24.21	24.14	24.66
Telephone & Telegraph	7.46	7.02	7.20	8.07	7.56	6.90	7.52	7.46
Mining & Petroleum.....	20.64	21.67	21.85	24.99	24.75	35.33	23.45	23.31
	Annual Rates of Change							
Total Structures.....	6.5	-13.0	0.0	24.6	5.3	3.9	-12.8	-4.7
Buildings & Other.....	2.4	-20.5	-7.4	6.9	11.9	13.1	-8.0	-7.8
Offices.....	-7.7	-22.8	-24.1	15.8	17.7	17.9	-12.0	-14.3
Stores & Warehouses..	-5.5	-23.9	3.0	-4.7	13.8	22.6	-2.4	-8.1
Industrial.....	19.4	-47.3	10.0	28.8	0.9	11.1	-15.3	-11.6
Institutional.....	35.2	23.4	-9.1	-3.3	45.1	-5.0	1.4	10.7
Educational.....	115.0	192.2	-14.6	-27.3	88.7	14.8	14.4	40.2
Religious.....	23.2	-26.4	0.7	1.1	-20.1	9.3	9.0	-4.5
Hospitals.....	19.8	8.1	-10.6	8.3	65.9	-14.2	-5.7	7.6
All Other.....	3.6	-6.6	-6.0	6.1	-11.4	4.1	-8.1	-3.8
Public Utilities.....	-9.2	-13.0	24.8	47.0	-4.1	-0.8	-0.3	2.2
Telephone & Telegraph	-3.2	-21.3	10.8	57.2	-22.8	2.8	9.0	-0.8
Mining & Petroleum.....	51.6	21.6	3.3	71.1	-3.7	-11.5	-33.6	-0.6

increase. After adding in the boosts to plant and nonoffice construction by nonmanufacturing, this investment category should rise an aggregate 6.9% this year.

The 22.8% increase for office construction planned in 1988 was also surprising. The national vacancy rate remains near 20%, with most regions of the country suffering a severe surplus of unoccupied space. Nearly all of the increase, however, falls in the trade and services sector, where the survey's coverage is relatively small.

The falling dollar and the resulting export turnaround have given U.S. businesses, especially manufacturers, the incentive to step up investment to regain world competitiveness and market share. While healthy spending increases in the computer and manufacturing equipment categories reflect a

Chart 4
Investment in Office Structures
(Billions of dollars, NIPA basis)



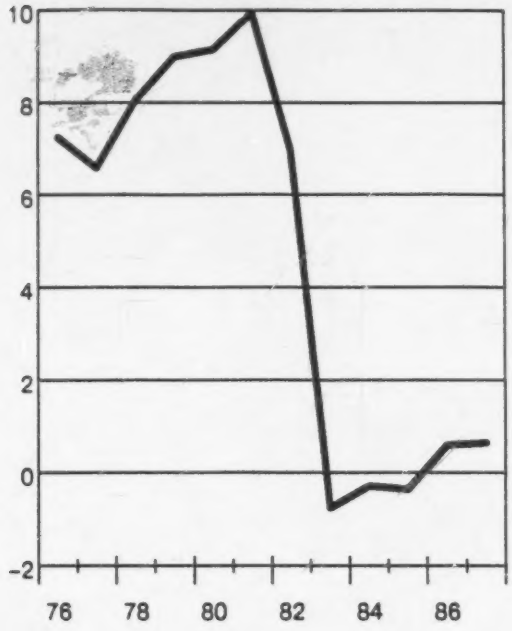
positive move toward necessary modernization, firms clearly remain reluctant to add factory capacity; they could prove overcautious, however, if potential customers are forced elsewhere and the chance to increase market share is lost.

INFLATION

Survey respondents expect capital goods prices to rise an average 3.8% in 1988 (Table II); DRI projects an increase of only 1.0%. Although fear of inflation may be at the root of this divergence, respondents have consistently overstated capital goods price inflation over the years. In November 1986 and March 1987, they predicted a 3.6% rise in plant and equipment prices for 1987; by May 1987, the increase was softened to 3.3%. It now seems likely that the final tally will show that capital goods prices rose less than 1.0% last year.

The survey's overstatement of inflation may be partly due to the pessimism of respondents. It is also probable, though, that respondents take little account of quality improvements in the capital goods they purchase. Consequently, their estimate of price inflation would tend to exceed measured price inflation in the official data, which do adjust for quality changes. This is particularly important in the case of office

Chart 5
Plant and Equipment Price Inflation



equipment (mainly computers). Because of technological improvements in computers, the price deflator for office equipment has declined at an average annual rate of more than 13% in the 1980s.

INDUSTRY HIGHLIGHTS

As noted, nondurable manufacturers exhibit the greatest optimism in their investment plans. The source of this optimism is largely increased export activity, stimulated by the decline in the dollar, which has boosted product demand and pushed up operating rates.

The chemical industry is particularly well positioned for a new round of investment growth. After the extensive restructuring and closing of excess capacity in the early 1980s, capacity utilization rates are hovering near 86%. Moreover, the industry posted a $9.3 billion trade surplus in 1987. Still cautious in 1987 when it cut investment by 1.5%, the chemical industry now seems ready to move; the survey shows a plant and equipment surge of 17.9% in 1988, with double-digit increases in all chemical product groups. Indeed, the spending increases are strongest for factory construction and manufacturing equipment purchases.

Petroleum refiners also appear ready for an investment turnaround. While the drop in the price of crude oil in the fall of 1986 was initially destabilizing, its long-term impact has been beneficial as low feedstock

Table 3
Durables Indicators
(Billions of dollars)

	Quarterly					Annual		
	86:4	87:1	87:2	87:3	87:4	1985	1986	1987
Iron & Steel								
Capacity Utilization Rate (%)	64.8	66.5	71.7	81.0	91.6	67.5	64.2	77.7
Shipments	40.8	41.3	44.8	50.2	56.2	48.1	42.5	48.1
New Orders	42.0	41.1	52.7	52.9	58.7	48.3	43.2	51.3
After-Tax Profits	-1.9	1.4	1.6	1.4	NA	-1.3	-3.4	NA
Nonferrous Metals								
Capacity Utilization Rate (%)	78.6	80.1	79.2	82.3	86.5	80.6	79.0	82.0
Shipments	48.3	48.3	50.7	54.5	62.0	51.5	48.5	53.9
New Orders	49.3	48.5	53.0	56.4	64.5	51.0	47.8	55.6
After-Tax Profits	0.7	1.1	0.3	2.1	NA	-1.0	0.8	NA
Electrical Machinery								
Capacity Utilization Rate (%)	74.4	74.7	74.5	75.7	76.4	76.5	73.6	75.3
Shipments	213.9	214.0	218.9	229.0	232.0	192.5	204.6	223.5
New Orders	215.6	198.8	230.9	234.6	240.2	200.2	206.7	226.1
After-Tax Profits	7.9	7.9	9.7	10.0	NA	6.9	7.6	NA
Nonelectrical Machinery								
Capacity Utilization Rate (%)	71.9	71.9	73.8	75.7	76.4	75.7	72.8	74.4
Shipments	204.2	201.9	206.1	219.1	224.0	215.0	205.2	212.8
New Orders	197.0	200.2	211.0	224.3	224.7	213.0	198.8	215.1
After-Tax Profits	5.6	3.0	12.9	11.3	NA	9.7	6.6	NA
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	78.5	82.3	78.0	76.5	80.1	83.2	80.2	79.2
Shipments	200.8	209.0	197.5	188.4	206.6	188.6	195.6	200.4
After-Tax Profits	7.0	11.6	13.2	8.1	NA	9.1	8.4	NA
Aerospace								
Shipments	112.0	97.4	101.5	98.8	107.3	90.8	98.9	101.3
New Orders	113.7	99.5	115.9	120.9	126.5	100.8	103.8	115.7
After-Tax Profits	-0.3	4.1	4.6	4.8	NA	3.3	3.1	NA
Fabricated Metals								
Capacity Utilization Rate (%)	77.8	77.4	77.6	77.9	79.9	78.7	77.7	78.2
Shipments	134.6	136.5	134.5	132.1	134.2	139.6	135.9	134.3
New Orders	135.3	134.7	135.4	133.9	135.4	137.5	134.8	134.8
After-Tax Profits	2.5	2.1	5.1	5.7	NA	3.4	3.2	NA
Instruments								
Capacity Utilization Rate (%)	78.2	78.1	78.8	79.2	79.1	82.5	79.5	78.8
Shipments	62.4	60.9	62.7	64.2	64.8	61.0	60.7	63.2
New Orders	61.4	61.8	63.9	65.7	64.3	60.9	60.5	63.9
After-Tax Profits	-1.9	3.9	4.2	4.9	NA	3.6	1.1	NA
Stone, Clay & Glass								
Capacity Utilization Rate (%)	82.6	83.4	81.7	80.7	81.9	81.3	82.8	81.9
Shipments	57.5	61.0	59.9	59.6	63.0	55.1	56.9	61.1
New Orders	57.1	60.8	59.7	60.4	63.4	55.3	56.8	61.1
After-Tax Profits	2.5	2.6	3.4	3.9	NA	1.6	2.1	NA

Note: Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

costs eventually boosted profit margins. The industry's capacity utilization rate is now surpassing 87%. After slashing investment nearly 33% in 1986 and another 5.9% in 1987, refiners project a 19.6% jump in

1988. The spending push here is also in manufacturing equipment and capacity expansion, as well as in computer equipment. Since this industry's investment includes integrated oil companies' exploration spending, the rise may be overly optimistic given the recent drop in oil prices. The anticipation of higher oil prices in the 1990s, however, could also be responsible for this optimism.

After modest increases in 1986 and 1987, paper and pulp mills forecast a jump of nearly 26% for plant and equipment investment in 1988. Last year was one of the industry's best, with shipments running nearly 15% ahead of year-earlier levels, profits up, and operating rates approaching 97% by January. The food industry was also bullish on investment and noted plans to boost spending 19.1% this year.

While nondurable manufacturers are more optimistic in the current survey than when polled by DRI last fall, durable manufacturers show little change: overall, they continue to expect roughly 10% growth in

Table 4
Nondurables Indicators
(Billions of dollars)

	Quarterly					Annual		
	86:4	87:1	87:2	87:3	87:4	1985	1986	1987
Chemicals								
Capacity Util. Rate (%)	80.2	80.9	81.9	83.0	84.5	78.0	79.7	82.7
Shipments	199.6	205.0	212.7	217.0	224.0	196.9	198.0	214.7
After-Tax Profits	8.6	17.0	15.5	22.4	NA	9.5	12.9	NA
Paper								
Capacity Util. Rate (%)	93.3	92.5	92.8	96.6	95.6	88.7	92.2	94.4
Shipments	109.8	112.6	115.1	121.7	125.8	93.4	103.8	118.8
After-Tax Profits	3.8	4.0	4.8	5.7	NA	2.9	3.3	NA
Rubber & Plastics								
Capacity Util. Rate (%)	85.7	85.2	87.3	87.8	88.2	86.7	85.0	87.1
Shipments	72.9	78.8	78.7	76.2	81.8	71.3	72.2	78.8
After-Tax Profits	1.2	3.3	3.6	3.2	NA	1.6	2.1	NA
Petroleum								
Capacity Util. Rate (%)	84.9	84.8	84.4	84.6	85.4	80.6	85.3	84.8
Shipments	115.3	121.2	128.8	136.4	132.8	179.1	129.4	129.8
After-Tax Profits	6.2	11.3	17.7	15.3	NA	12.7	8.8	NA
Food & Beverage								
Capacity Util. Rate (%)	80.0	79.9	79.9	80.4	79.6	80.3	80.3	80.0
Shipments	323.3	323.4	331.7	338.9	343.0	301.6	314.4	334.3
Textiles								
Capacity Util. Rate (%)	89.7	88.5	92.7	94.2	93.3	83.3	88.0	92.2
Shipments	55.7	55.1	55.8	58.0	57.0	53.2	54.5	56.5
After-Tax Profits	2.0	1.5	1.5	2.2	NA	1.2	1.7	NA

Note: Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

1988 capital spending. The largest investment spending industry, electrical machinery producers, projects a 7.0% increase in 1988, despite a low 76.6% capacity utilization rate in January. Modernization, not expansion, seems to be the priority for electrical manufacturers; the bulk of this new investment is earmarked for computers. Moreover, all product groups do not share this optimism: while makers of communication equipment, electronic components, and miscellaneous electrical products plan to increase spending, household appliance, electrical industrial apparatus, distributing equipment, and lighting and wiring producers predict budget cutbacks.

Nonelectrical machinery industries also plan to raise investment by 7.9% this year. Again, modernization and replacement appear to be the goals, with most of the increase slated for new manufacturing equipment. By product group, only metalworking machinery manufacturers anticipate a spending decline in 1988; producers of special industrial, construction, mining, materials handling, and refrigeration equipment foresee large increases. Computer makers plan an 11.6% gain, while farm equipment manufacturers noted an 11.5% investment increase.

Automobile and truck makers reported the only 1988 cutback among durable manufacturers, albeit a slight 0.3%. While extensive plant idlings over the past few years have been largely responsible for the industry's low capacity utilization rate of 76.7% in 1987, imports remain a threat. Overcapacity and excess inventory problems have not been solved by cut-rate financing and clearout sales, which consumers have come to expect. In addition, Japanese automakers are increasing U.S. production to beat import quotas.

In the nonmanufacturing sector, airlines, railroads, and mining companies all show double-digit investment increases for 1988. Within mining, oil and gas drilling, oil well services, and metal mining companies account for the spending surge. "Other" transportation industries reported the lone cutback, although deep cuts by pipeline companies masked strong gains in the trucking and warehouse industries.

The electric utility industry tightened investment budgets by 6.1% in 1986 and another 7.6% in 1987. This industry is still saddled with excess capacity from a plant building spree in the 1970s, overanticipating consumer demand. The 0.6% investment increase reported for 1988 may prove overly optimistic.

Despite weak sales, gas utilities plan a 9.3% spending gain in 1988. Communications companies also report a large increase of 9.4%. Here, most of the increased spending is focused in switching, trunking, and telecommunications plant construction. Healthy telephone industry profits have undoubtedly buoyed the optimism within this still-volatile and highly competitive market.

Table 5
Nonmanufacturing Indicators

	Quarterly					Annual		
	86:4	87:1	87:2	87:3	87:4	1985	1986	1987
Mining								
Bituminous Coal Production --Thousand short tons	889,548	883,620	869,340	924,592	973,148	878,930	886,022	912,675
Oil & Gas Well Footage Drilled --Thousands of feet	71,719	NA	NA	NA	NA	307,719	146,537	NA
Refiners' Acquisition Price of Oil--Dollars	13.36	16.57	17.73	19.01	17.78	26.66	14.76	17.77
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	886.4	905.6	922.0	969.2	NA	875.8	874.5	NA
New Freight Cars, Unfilled Orders --Thousands of cars	2.7	3.9	5.4	5.5	6.7	1.8	2.7	5.4
Airlines								
Passenger-Miles Revenue--Billions	351.2	366.9	417.0	NA	NA	331.7	363.0	NA
Passenger Load Factor--(%)	57.9	59.8	64.5	NA	NA	61.4	60.2	NA
Electric Utilities								
Electricity Output --Billions of kw-hr	2,505	2,493	2,583	2,630	2,560	2,470	2,487	2,567
Electric Utility Revenues --Millions of dollars	145,082	148,825	147,031	180,338	NA	149,373	152,961	NA
Gas Utilities								
Natural Gas Sales--Trillion btu	11,568	16,051	8,229	6,966	11,658	12,724	11,034	10,726
Gas Utility Revenues --Millions of dollars	50,676	69,672	35,655	24,950	NA	63,316	50,870	NA
Communications								
Commercial Construction --Billions of 1982 dollars	47.0	44.0	42.7	43.2	44.8	53.1	49.2	43.7
Consumer Spending on Financial Services --Billions of 1982 dollars	100.0	100.9	101.3	102.5	104.4	95.5	99.0	102.3
Trade and Services								
Retail Sales--Billions of dollars, SA	1,486.6	1,467.7	1,504.5	1,531.1	1,516.3	1,378.8	1,453.4	1,504.9
Consumer Spending On Personal & Business Services	353.6	366.0	364.5	367.8	370.3	336.6	352.3	367.2
Medical Services --Billions of 1982 dollars	256.3	258.7	262.0	265.2	267.2	240.8	251.9	263.3

Survey respondents also reported an aggregate capital spending uptick of 0.5% in 1989. This projection is too tentative to be given much consideration.

NOTES ON THE SURVEY

The results discussed here are based on the responses of 457 firms to the DRI/McGraw-Hill survey taken in January through March. These firms account for 20.2% of all 1987 capital spending in the country

(Table X). Firms supplied current-dollar estimates of future capital spending as well as actual investment in 1987.

From these responses, percentage changes for 1987-88 and 1988-89 were calculated. Firms with a disproportionate share of the sample's capital spending and/or extreme percentage changes were removed from the sample when calculating industry growth rates. These growth rates were then applied to the prior period's level of the population, excluding outliers. Spending by outliers for the current period is then added back in.

The spending detail shown in Tables IV through VII is based on percentage, rather than dollar, figures provided by the sample firms. Percentage responses were weighted by the size of firms within each industry sample to derive industry figures.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending

Industry	Level			Percent Change	
	1987 (*1)	1988	1989	1988	1989
Iron & Steel	4.44	5.56	4.54	25.4	-18.4
Nonferrous Metals.....	2.12	2.46	2.46	16.1	0.1
Electrical Machinery....	15.27	16.34	16.26	7.0	-0.5
Non-Electrical Machinery	13.67	14.75	14.28	7.9	-3.2
Autos, Trucks & Parts...	12.29	12.26	8.31	-0.3	-32.2
Aerospace.....	3.64	4.39	4.11	20.5	-6.3
Fabricated Metals.....	3.92	4.66	4.64	18.9	-0.3
Instruments (*2).....	2.55	2.98	2.91	16.9	-2.4
Stone, Clay & Glass.....	3.41	3.47	3.60	1.7	3.9
Other Durables (*2).....	9.42	10.58	10.61	12.2	0.4
TOTAL DURABLES.....	70.73	77.43	71.72	9.5	-7.4
Chemicals.....	16.56	19.53	20.47	17.9	4.8
Paper & Pulp.....	8.87	11.16	10.66	25.9	-4.5
Rubber & Plastic (*3)...	3.50	3.75	4.08	7.0	8.9
Petroleum.....	16.86	20.16	22.06	19.6	9.4
Food & Beverage.....	11.04	13.15	13.42	19.1	2.0
Textiles.....	1.89	1.98	1.95	4.4	-1.4
Other Nondurables.....	15.72	16.17	14.26	2.8	-11.8
TOTAL NONDURABLES.....	74.45	85.89	86.88	15.4	1.2
ALL MANUFACTURING.....	145.18	163.32	158.61	12.5	-2.9
Mining.....	11.03	13.12	15.14	18.9	15.4
Railroads.....	6.08	7.33	7.66	20.5	4.6
Airlines.....	6.48	7.86	6.45	21.2	-18.0
Other Transportation....	6.36	5.88	5.48	-7.5	-6.9
Electric Utilities.....	31.31	31.51	29.91	0.6	-5.1
Gas & Other Utilities...	12.93	14.14	16.76	9.3	18.6
Communications.....	32.39	35.44	35.23	9.4	-0.6
Trade & Services (*3)...	133.32	140.40	146.04	5.3	4.0
ALL NONMANUFACTURING....	239.91	255.68	262.67	6.6	2.7
ALL BUSINESS.....	385.08	419.00	421.28	8.8	0.5

(*1) 1987 data are DRI estimates derived from DRI's econometric model of industry plant and equipment spending, the November 1987 DRI/McGraw-Hill Survey of Preliminary Plans for New Plant & Equipment Spending and the December 1987 BEA Plant & Equipment Expenditures Survey.
(*2) Historical data for the instruments series is taken from the Census Bureau's Survey of Manufacturers. Data for 1987 are from the November 1987 DRI/McGraw-Hill Survey. The other durables category is redefined to have components' sum equal total durables.
(*3) DRI Estimate.

Table II
Inflation Expectations
(Billions of dollars)

	Expected % Change, 1987-88	
	Plant & Equip. Prices	Real Capital Spending
Iron & Steel	2.8	22.0
Nonferrous Metals	4.6	10.9
Electrical Machinery	4.1	2.8
Non-Electrical Machinery	4.5	3.3
Autos, Trucks & Parts	3.5	-3.7
Aerospace	3.8	16.0
Fabricated Metals	4.6	13.7
Instruments	3.6	12.9
Stone, Clay & Glass	4.3	-2.5
Other Durables	4.5	7.5
TOTAL DURABLES	3.7	5.8
Chemicals	4.2	13.1
Paper & Pulp	2.6	22.6
Rubber & Plastic	4.1	2.7
Petroleum	3.6	15.4
Food & Beverage	5.1	13.3
Textiles	4.2	0.2
Other Nondurables	4.1	-1.2
TOTAL NONDURABLES	4.0	11.0
ALL MANUFACTURING	3.8	8.4
Mining	4.2	14.1
Railroads	3.3	16.7
Airlines	4.0	16.6
Other Transportation	3.8	-10.9
Electric Utilities	4.4	-3.6
Gas & Other Utilities	4.0	5.1
Communications	2.9	6.3
Trade & Services	4.5	0.8
TOTAL NONMANUFACTURING	3.8	2.6
ALL BUSINESS	3.8	4.8

Table III
Capital Spending on Computers and Other Office Equipment
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1987	1988	1987	1988
Iron & Steel	29.1	38.5	0.7	0.7
Nonferrous Metals.....	39.9	52.5	1.9	2.1
Electrical Machinery....	3,035.2	3,574.6	19.9	21.9
Non-Electrical Machinery	1,084.5	486.7	7.9	3.3
Autos, Trucks & Parts...	508.3	573.2	4.1	4.7
Aerospace.....	934.6	1,193.7	25.7	27.2
Fabricated Metals.....	255.9	283.9	6.5	6.1
Instruments.....	855.8	967.2	33.6	32.4
Stone, Clay & Glass.....	104.8	83.3	3.1	2.4
Other Durables.....	861.0	1,654.0	9.1	15.6
TOTAL DURABLES.....	7,709.0	8,907.6	10.9	11.5
Chemicals.....	975.3	1,082.5	5.9	5.5
Paper & Pulp.....	207.2	216.2	2.3	1.9
Rubber & Plastics.....	99.5	87.8	2.8	2.3
Petroleum.....	320.2	485.5	1.9	2.4
Food & Beverage.....	293.4	343.0	2.7	2.6
Textiles.....	75.5	102.9	4.0	5.2
Other Nondurables.....	2,168.1	1,995.8	13.8	12.3
TOTAL NONDURABLES.....	4,139.4	4,313.6	5.6	5.0
ALL MANUFACTURING.....	11,848.4	13,221.2	8.2	8.1
Mining.....	54.8	74.1	0.5	0.6
Railroads.....	226.4	159.8	3.7	2.2
Airlines.....	NA	NA	NA	NA
Other Transportation....	204.7	515.0	3.2	8.8
Electric Utilities.....	840.7	769.4	2.7	2.4
Gas & Other Utilities...	214.6	595.4	1.7	4.2
Communications.....	2,818.5	3,040.6	8.7	8.6
Trade & Services.....	20,636.5	22,713.4	15.5	16.2
ALL NONMANUFACTURING....	25,989.4	29,868.1	10.8	11.7
ALL BUSINESS.....	37,837.8	43,089.3	9.8	10.3

Table IV
Capital Spending on Manufacturing Equipment*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1987	1988	1987	1988
Iron & Steel	4,214.8	5,219.2	95.0	93.9
Nonferrous Metals	1,378.8	1,918.3	65.2	78.1
Electrical Machinery	6,984.4	6,754.8	45.7	41.3
Non-Electrical Machinery	4,998.2	10,638.1	36.6	72.1
Autos, Trucks & Parts	10,356.3	10,204.5	84.2	83.3
Aerospace	1,397.8	1,866.4	38.4	42.5
Fabricated Metals	2,103.0	2,452.9	53.7	52.6
Instruments	1,107.0	1,278.4	43.4	42.9
Stone, Clay & Glass	2,466.2	2,417.6	72.4	69.7
Other Durables	3,823.3	6,484.9	40.6	61.3
TOTAL DURABLES	38,829.7	49,235.1	54.9	63.6
Chemicals	10,106.6	11,751.2	61.0	60.2
Paper & Pulp	7,840.0	9,733.0	88.4	87.2
Rubber & Plastics	2,903.0	3,113.2	82.9	83.1
Petroleum	13,155.0	14,781.8	78.0	73.3
Food & Beverage	7,670.6	9,443.0	69.5	71.8
Textiles	1,075.2	1,657.8	56.8	83.9
Other Nondurables	5,846.7	6,643.0	37.2	41.1
TOTAL NONDURABLES	48,597.2	57,122.9	65.3	66.5
ALL MANUFACTURING	87,426.9	106,358.0	60.2	65.1
Mining	894.7	1,010.6	8.1	7.7
Railroads	1,335.4	1,845.1	22.0	25.2
Airlines	NA	NA	NA	NA
Other Transportation	297.4	219.8	4.7	3.7
Electric Utilities	21,161.7	21,647.0	67.6	68.7
Gas & Other Utilities	8,378.3	8,431.9	64.8	59.6
Communications	839.6	1,076.0	2.6	3.0
Trade & Services	44,453.7	40,081.9	33.3	28.5
ALL NONMANUFACTURING	78,677.0	75,420.9	32.8	29.5
ALL BUSINESS	166,103.9	181,778.9	43.1	43.4

*Data are derived from the second part of question 3 on the questionnaires reprinted at the end of this report. Manufacturers were asked what share of capital spending was (will be) for equipment used in manufacturing, processing, and assembling. Equipment definitions for nonmanufacturing industries were as follows: mining--mining and drilling equipment; railroads--tools and equipment; airlines--tools and equipment; utilities--generation, distribution, and transmission equipment; communications--installation, service, and broadcast tools and equipment; trade and services--fixtures and other non-computer equipment.

Table V
Capital Spending on Autos and Trucks*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1987	1988	1987	1988
Iron & Steel	9.8	11.8	0.2	0.2
Nonferrous Metals.....	31.1	27.3	1.5	1.1
Electrical Machinery....	132.5	131.8	0.9	0.8
Non-Electrical Machinery	541.9	690.0	4.0	4.7
Autos, Trucks & Parts...	51.8	28.0	0.4	0.2
Aerospace.....	45.3	54.7	1.2	1.2
Fabricated Metals.....	84.9	84.5	2.2	1.8
Instruments.....	91.3	107.7	3.6	3.6
Stone, Clay & Glass.....	226.5	240.0	6.6	6.9
Other Durables.....	348.9	257.6	3.7	2.4
TOTAL DURABLES.....	1,564.2	1,633.4	2.2	2.1
Chemicals.....	340.6	408.5	2.1	2.1
Paper & Pulp.....	128.2	158.0	1.4	1.4
Rubber & Plastics.....	26.9	2.2	0.8	0.1
Petroleum.....	113.8	180.0	0.7	0.9
Food & Beverage.....	466.9	383.9	4.2	2.9
Textiles.....	32.1	23.6	1.7	1.2
Other Nondurables.....	251.7	273.1	1.6	1.7
TOTAL NONDURABLES.....	1,360.2	1,429.3	1.8	1.7
ALL MANUFACTURING.....	2,924.3	3,062.7	2.0	1.9
Mining.....	2,508.5	2,787.6	22.7	21.3
Railroads.....	166.9	520.8	2.7	7.1
Airlines.....	3,731.9	4,042.2	57.6	51.4
Other Transportation....	1,585.4	1,736.0	24.9	29.5
Electric Utilities.....	523.8	542.2	1.7	1.7
Gas & Other Utilities...	399.1	574.5	3.1	4.1
Communications.....	538.4	525.4	1.7	1.5
Trade & Services.....	2,384.3	2,971.9	1.8	2.1
ALL NONMANUFACTURING....	11,838.2	13,701.5	4.9	5.4
ALL BUSINESS.....	14,762.6	16,764.2	3.8	4.0

*Data for railroad and airline industries are for locomotives and aircraft.

Table VI
Capital Spending on Factory Construction*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1987	1988	1987	1988
Iron & Steel	51.3	120.0	1.2	2.2
Nonferrous Metals	65.1	66.9	3.1	2.7
Electrical Machinery	1,557.5	728.3	10.2	4.5
Non-Electrical Machinery	4,143.8	2,060.3	30.3	14.0
Autos, Trucks & Parts	1,235.5	1,320.9	10.1	10.8
Aerospace	882.5	921.1	24.2	21.0
Fabricated Metals	149.0	433.1	3.8	9.3
Instruments	126.5	214.6	5.0	7.2
Stone, Clay & Glass	4.0	34.4	0.1	1.0
Other Durables	2,046.5	533.2	21.7	5.0
TOTAL DURABLES	10,261.7	6,432.8	14.5	8.3
Chemicals	2,648.3	3,341.3	16.0	17.1
Paper & Pulp	554.5	888.7	6.3	8.0
Rubber & Plastics	286.6	413.8	8.2	11.0
Petroleum	1,766.9	2,606.1	10.5	12.9
Food & Beverage	1,984.6	2,306.0	18.0	17.5
Textiles	589.3	79.1	31.1	4.0
Other Nondurables	3,605.2	3,831.4	22.9	23.7
TOTAL NONDURABLES	11,435.3	13,466.3	15.4	15.7
ALL MANUFACTURING	21,697.1	19,899.1	14.9	12.2
Mining	129.3	87.6	1.2	0.7
Railroads	3,270.9	3,323.8	53.8	45.4
Airlines	NA	NA	NA	NA
Other Transportation	573.4	286.8	9.0	4.9
Electric Utilities	5,908.5	4,361.7	18.9	13.8
Gas & Other Utilities	1,351.1	1,628.4	10.4	11.5
Communications	23,767.9	26,327.3	73.4	74.3
Trade & Services	22,800.9	28,745.9	17.1	20.5
ALL NONMANUFACTURING	58,133.0	65,423.2	24.2	25.6
ALL BUSINESS	79,830.0	85,322.3	20.7	20.4

*Data are derived from the fourth part of question 3 on the questionnaires reprinted at the end of this report. Manufacturers were asked what share of bapital spending was (will be) for factory construction. Construction definitions for nonmanufacturing industries were as follows: mining--site development; railroads--track and roadway construction and maintenance; airlines--hangar and terminal construction; utilities--plant construction; communications--switching, trunking, and telecommunications plant; trade and services--outlets, warehouse, and other non-office construction.

Table VII
Capital Spending on Office Construction
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1987	1988	1987	1988
Iron & Steel	16.5	65.7	0.4	1.2
Nonferrous Metals.....	0.6	10.6	0.0	0.4
Electrical Machinery....	370.4	520.6	2.4	3.2
Non-Electrical Machinery	466.7	223.6	3.4	1.5
Autos, Trucks & Parts...	84.8	53.9	0.7	0.4
Aerospace.....	113.0	126.1	3.1	2.9
Fabricated Metals.....	104.4	138.1	2.7	3.0
Instruments.....	6.4	16.4	0.2	0.6
Stone, Clay & Glass.....	56.0	135.5	1.6	3.9
Other Durables.....	739.5	487.1	7.8	4.6
TOTAL DURABLES.....	1,958.3	1,777.4	2.8	2.3
Chemicals.....	786.2	798.2	4.7	4.1
Paper & Pulp.....	19.0	6.5	0.2	0.1
Rubber & Plastics.....	44.0	69.9	1.3	1.9
Petroleum.....	0.0	46.5	0.0	0.2
Food & Beverage.....	359.1	107.4	3.3	0.8
Textiles.....	3.3	90.6	0.2	4.6
Other Nondurables.....	1,773.2	1,273.5	11.3	7.9
TOTAL NONDURABLES.....	2,984.8	2,392.6	4.0	2.8
ALL MANUFACTURING.....	4,943.1	4,170.1	3.4	2.6
Mining.....	28.0	19.0	0.3	0.1
Railroads.....	152.2	169.5	2.5	2.3
Airlines.....	NA	NA	NA	NA
Other Transportation....	3.1	164.0	0.0	2.8
Electric Utilities.....	815.4	1,125.4	2.6	3.6
Gas & Other Utilities...	205.0	680.8	1.6	4.8
Communications.....	1,449.6	1,659.3	4.5	4.7
Trade & Services.....	16,525.7	21,623.1	12.4	15.4
ALL NONMANUFACTURING....	19,178.9	25,441.1	8.0	10.0
ALL BUSINESS.....	24,122.0	29,611.2	6.3	7.1

Table VIII
Industry Detail Data

Industry	Capital Spending % Change 1988	1989
Durables		
Iron & Steel (a)	47.0	-8.8
Nonferrous Metals (a)	10.0	-1.3
Primary Nonferrous Metals	4.5	-1.5
Nonferrous Rolling and Drawing	62.4	NA
Electrical Machinery (a)	-0.1	-0.6
Electric Distributing Equipment	-5.5	NC
Electrical Industrial Apparatus	-11.1	25.0
Household Appliances	-14.2	15.6
Electric Lighting and Wiring	-44.4	-25.0
Communication Equipment	14.3	-9.9
Electronic Components	29.8	12.8
Misc. Electrical	23.4	13.2
Non-Electrical Machinery (a)	7.6	-4.4
Farm Equipment	11.5	-7.5
Construction, Mining, Materials Handling Eq.	57.3	-3.9
Metalworking Machinery	-29.9	0.3
Special Industry Machinery	50.2	138.8
General Industrial Machinery	5.6	1.1
Office, Computing Machinery	11.6	-6.0
Refrigeration and Service Industry Machinery	58.8	-5.8
Autos, Trucks & Parts (a)	-5.6	11.2
Aerospace (a)	19.3	-1.8
Fabricated Metals (a)	23.6	0.4
Cutlery, Hand Tools, Hardware	30.9	12.0
Plumbing and Heating Eq	-52.5	31.6
Fabricated Structural Metal	3.7	0.0
Screw Machine Products	16.0	-3.4
Metal Forgings and Stampings	0.0	11.1
Misc. Fabricated Metals	21.2	-1.6
Instruments (a)	57.3	-9.5
Engineering & Scientific Instruments	41.1	2.5
Optical Instruments and Lenses	-100.0	NC
Medical Instruments and Supplies	-9.0	-7.3
Stone, Clay & Glass (a)	20.5	5.8
Products of Purchased Glass	67.3	9.9
Cement, Hydraulic	-0.1	-1.8
Structural Clay Products	-30.2	NC
Concrete, Gypsum, Plaster	24.6	32.0
Misc. Nonmetallic Mineral Products	7.4	6.9
Other Durables (a)	58.4	-1.1
Lumber	68.3	NC
Furniture	42.7	5.0
Ships & Boats	137.9	60.3
Railroad Equipment	-25.1	-3.1
Motorcycles, Bicycles & Parts	58.5	1.9
Nondurables		
Chemicals (a)	17.0	4.9
Industrial Inorganic Chemicals	20.8	3.4
Plastics Materials and Synthetics	52.2	-2.9
Drugs	29.3	4.6
Soap, Cleaners, & Toilet Goods	21.8	-15.1
Paints	43.9	NC
Agricultural Chemicals	15.5	8.0
Misc. Chemicals	38.4	-9.4
Paper & Pulp (a)	26.5	-7.7
Paper Mills	6.1	3.0
Converted Paper Prod	-50.0	800.0
Paperboard Containers	66.9	-4.0

Table VIII (Continued)

Industry	Capital Spending % Change 1988	1989
Rubber & Plastic (a)	53.7	23.7
Miscellaneous Plastics Products	51.0	-43.8
Petroleum (a)	20.0	5.5
Food & Beverage (a)	24.8	2.2
Meat Products	41.4	2.3
Dairy Products	67.0	-23.0
Preserved Fruits and Vegetables	10.5	7.5
Grain Mill Products	28.2	19.5
Sugar Products	-4.1	0.0
Beverages	-0.4	-3.8
Textiles (a)	22.3	-20.5
Weaving Mills, Cotton	3.7	0.0
Knitting Mills	18.6	4.2
Yarn and Thread Mills	157.1	11.1
Other Nondurables (a)	2.9	-11.8
Tobacco	44.3	-36.4
Apparel	20.2	-2.7
Printing and Publishing	0.1	-9.6
Leather	23.8	0.0
Nonmanufacturing		
Mining (a)	40.6	36.5
Metal Mining	99.0	-10.7
Bituminous Coal	4.3	21.4
Oil & Gas Extraction	41.5	40.8
Oil Well Services	44.2	42.9
Stone & Earth Minerals	-9.8	-1.9
Railroads (a)	35.6	-5.8
Airlines (a)	21.2	-18.1
Other Transportation (a)	-8.0	-5.9
Trucking and Warehousing	22.0	-18.1
Pipelines	-30.6	-19.3
Freight Trans., Rail Car Rent	1.9	6.6
Electric Utilities (a)	1.2	-5.3
Gas & Other Utilities (a)	20.2	7.6
Communications (a)	9.6	-0.5
Telephone Communications	10.6	0.6
Trade & Services (a)	8.9	0.0
General Building Contractors	94.7	-20.0
Heavy Construction Contractors	11.5	0.0
Retail and Whole. Trade	27.3	-3.1
Hardware, Plumbing Eq.--Whole	31.8	-16.4
General Merchandise Stores	10.5	5.2
Food Stores	76.5	-15.8
Finance	16.6	-1.4
Insurance Carriers	9.3	-13.8
Personal & Business Services	2.4	1.9
Hotels and Motels	20.3	19.6
Business Services	6.5	-31.6
Computer and Data Processing Services	-13.4	-0.9
Miscellaneous Business Services	48.2	-60.5
Amusement & Recreations Services	-22.0	-83.7
Health Services	-6.9	2.9
Educational Services	-37.1	0.0
Miscellaneous Professional Services	252.5	-93.8

a. Percentage changes in this report are different from those reported in Table I because of the treatment of outliers. In Table I, the dollar spending of outliers is reincluded when going from sample percentage change to the level of industry spending.

Table IX
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	11.6
Nonferrous Metals.....	44.7
Electrical Machinery....	22.6
Non-Electrical Machinery	12.1
Autos, Trucks & Parts...	84.0
Aerospace.....	85.3
Fabricated Metals.....	6.3
Instruments	7.5
Stone, Clay & Glass.....	12.9
Other Durables	7.4
TOTAL DURABLES.....	30.5
Chemicals.....	24.6
Paper & Pulp.....	8.3
Rubber & Plastic.....	2.3
Petroleum.....	60.7
Food & Beverage.....	20.1
Textiles.....	6.3
Other Nondurables.....	5.5
TOTAL NONDURABLES.....	24.6
ALL MANUFACTURING.....	27.5
Mining.....	30.1
Railroads.....	34.9
Airlines.....	22.0
Other Transportation....	3.2
Electric Utilities.....	52.1
Gas & Other Utilities...	12.6
Communications.....	27.9
Trade & Services.....	2.7
ALL NONMANUFACTURING....	15.7
ALL BUSINESS.....	20.2

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. T _____
TRADE & SERVICES

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Fixtures and Other Non-Computer Equipment	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Outlet, Warehouse, and Other Non-Office Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Equipment and Facilities	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MARCO1

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. A _____
AIRLINES

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Tools & Equipment	_____ %	_____ %
Aircraft	_____ %	_____ %
Hanger and Terminal Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MAR002

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. C _____
COMMUNICATIONS

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Installation, Service and Broadcast Tools and Equipment	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Switching, Trunking, and Telecommunications Plant	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MAR003

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. EG _____
ELECTRIC & GAS UTILITIES

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Generation, Distribution & Transmission Equipment	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Plant Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Electric & Gas Utility Property and Equipment	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MAR004

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. M _____
MINING

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Mining & Drilling Machinery	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Site Development	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MARCOS

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. R _____
RAILROADS

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Tools & Equipment	_____ %	_____ %
Locomotives	_____ %	_____ %
Track and Roadway Construction and Maintenance	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Equipment and Facilities	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE (___) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by March 4, 1988)

MARCH

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. G _____
GENERAL

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1987 and how much does it plan to spend (including inflation) in 1988 and 1989? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1987	1988	1989
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1987 and 1988 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1987	1988
Computers and Other Office Equipment	_____ %	_____ %
Machinery used in Manufacturing, Processing, and Assembling	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Factory Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Buildings	_____ %	_____ %
	100 %	100 %

4. Did you reduce your spending plans as a direct result of the stock market crash? YES ___ NO ___

NAME _____ TITLE _____

COMPANY _____ PHONE ( ) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

MAR007

(Please return by March 4, 1988)

5805-1.3-4

DRI Data Resources

24 Hartwell Avenue
Lexington, Massachusetts 02173
Telephone (617) 860-6100

May 1988

41st ANNUAL DRI/McGRAW-HILL SPRING SURVEY OF BUSINESS PLANS FOR NEW PLANTS AND EQUIPMENT, 1988-90

As the U.S. economy navigates its sixth year of uninterrupted expansion, business leaders see increased investment as the key to sustained growth. In fact, as memory of October's stock market scare fades, the level of planned capital expenditures keeps growing.

According to Data Resources' May survey of investment plans, 1988 could produce a small boom. Respondents plan to boost aggregate investment in new plants and equipment 9.9% in 1988, to $427.1 billion (Table I*). In contrast, DRI's March survey reported an 8.8% increase for the year, while the November survey forecast a 6.2% increase.

Inflation fears are also mounting. Respondents' expectations of the price of plants and equipment in 1988 rose from a 3.8% rate of increase in the March survey to 4.4% in the May survey (Table VIII). Because this upward revision to the inflation outlook is smaller than the upward shift in capital budgets, however, "real" (inflation-adjusted) investment projections still rise. Assuming both expectations are realized, real spending will increase 5.3% in 1988. The March survey reported an inflation-adjusted gain of only 4.8%.

While all three major sectors plan higher investment levels in the current year, the two manufacturing groups together are forecasting a double-digit advance of 13.2%. Durable goods manufacturers plan an aggregate jump of 9.5%, led by surges in the iron and steel, instruments, and nonferrous metals industries. Makers of aerospace and electrical machinery also expect strong gains, while the motor-vehicle industry still predicts a moderate cutback. Investment by nondurable manufacturers is slated to climb 16.7% in 1988, led by strong increases in the paper and pulp, chemical, food and beverage, and petroleum industries. Strong advances by airlines, mining firms, railroads, and "other" transportation industries are expected to push nonmanufacturing investment up 7.9% in the current year; only electric utilities project spending cuts.

*Tables denoted by Roman numerals appear at the end of this report.

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Chart 1
New Plant and Equipment Prices
(Percent change)

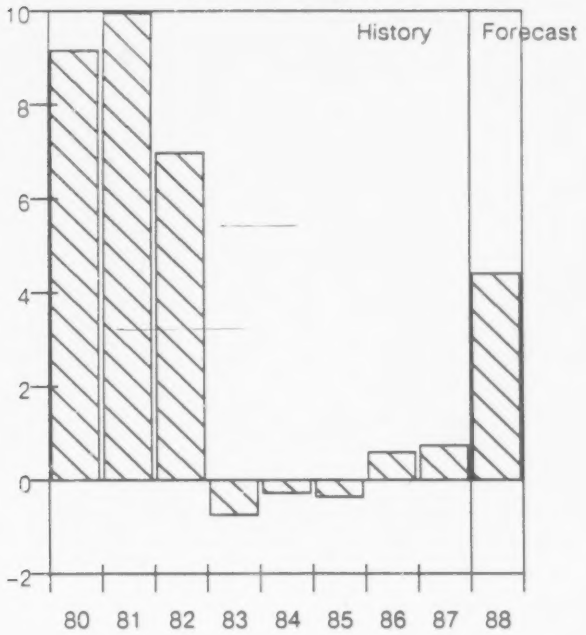
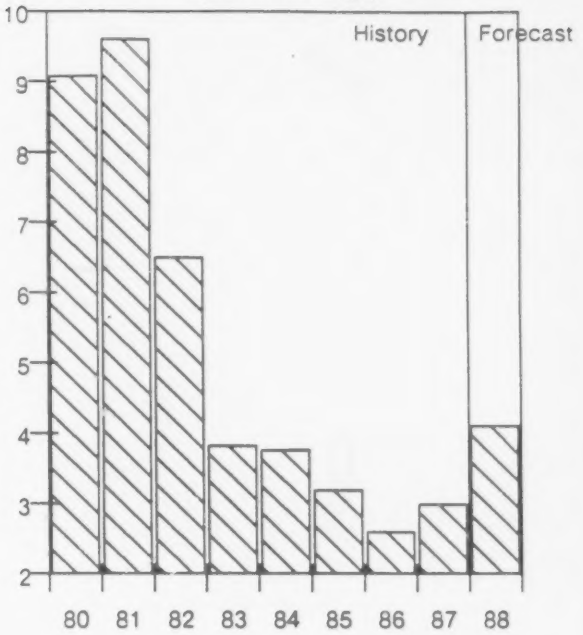


Chart 2
Output Prices
(Percent change)



These are the key findings of DRI/McGraw-Hill's 41st Annual Spring Survey of Business Plans for New Plants and Equipment, 1988-90. Conducted in April and May, the survey drew responses from 366 companies that account for more than 19% of total plant and equipment spending in the United States (Table IX). Figures in this report have been adjusted to represent spending by all U.S. companies and reflect domestic investment only.

INFLATION

Survey respondents expect capital goods prices to rise an average 4.4% in 1988 (Table II); DRI projects an increase closer to 1%. While fear of an overheating economy may be the cause of this difference, respondents have consistently overstated capital goods price inflation over the years. In November 1986 and March 1987, they predicted a 3.6% rise in plant and equipment prices for 1987; by May 1987, the increase had softened to 3.3%. Capital goods prices actually rose less than 1.0% last year.

Pessimism may be part of the reason why respondents overshoot inflation, but they may also take little account of quality improvements in the capital goods they purchase. Their estimate of price inflation would thus tend to exceed measured price inflation in the official data, which do adjust for quality enhancement. This is particularly important in the case of office and computing equipment. Because of

Table 1
Capital Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	87:1	87:2	87:3	87:4	88:1	1985	1986	1987
Total Equipment	305.6	317.5	336.6	335.8	360.5	304.8	313.5	323.9
Information Processing & Related Eq.	128.5	132.4	146.1	143.5	159.7	120.5	128.7	137.6
Office & Computing Machinery	70.9	73.7	84.1	83.7	98.7	66.4	71.9	78.1
Communication Equipment	34.0	34.6	37.2	35.4	36.7	31.3	33.0	35.3
Scientific & Engineering Inst.	12.2	12.4	12.7	12.6	12.7	11.6	12.2	12.5
Photocopy & Related Equipment	11.4	11.7	12.1	11.8	11.6	11.3	11.6	11.7
Industrial Equipment	51.7	51.5	53.2	55.1	57.1	51.0	51.5	52.9
Fabricated Metals	7.6	7.4	7.1	7.3	7.5	8.0	7.6	7.3
Metalworking Machinery	14.4	14.4	14.1	14.7	15.1	14.7	14.8	14.4
Special Industrial Eq.	14.3	14.2	15.3	17.0	18.2	11.9	13.2	15.2
General Industrial Eq.	15.4	15.6	16.7	16.2	16.3	16.5	15.8	16.0
Transportation Equipment	53.5	59.8	60.4	58.6	63.1	61.5	60.9	58.1
Trucks, Buses & Trailers	27.3	29.6	30.3	29.8	30.8	29.5	27.8	29.3
Autos	13.0	15.2	16.0	15.4	17.8	19.2	18.5	14.9
Aircraft	11.2	12.8	11.5	11.1	11.9	10.0	12.2	11.7
Ships & Boats	0.8	0.8	0.8	0.8	0.8	1.4	1.2	0.8
Railroad Equipment	1.2	1.2	1.7	1.5	1.7	1.4	1.2	1.4
Energy and Related Eq.	15.4	16.0	16.5	17.0	16.9	16.6	15.8	16.2
Engines & Turbines	1.1	1.3	1.4	2.0	1.5	1.7	1.7	1.5
Electrical Trans. & Dist. Eq.	11.6	11.8	12.0	11.9	12.2	11.5	11.5	11.8
Mining & Oilfield Machinery	2.7	2.9	3.1	3.1	3.3	3.4	2.6	3.0
Miscellaneous Equipment	58.5	59.9	62.7	63.8	66.0	56.8	58.6	61.2
Furniture & Fixtures	13.6	13.7	13.9	14.6	14.6	13.4	13.4	13.9
Tractors	5.2	5.2	5.7	5.5	6.0	4.9	5.2	5.4
Agricultural Machinery	6.4	6.3	7.0	6.9	7.6	5.8	5.8	6.7
Construction Machinery	8.5	9.1	9.5	9.7	9.9	9.4	10.4	9.2
Service Industry Machinery	7.4	7.7	7.5	7.9	8.2	7.6	7.4	7.6
Electrical Equipment, n.e.c.	8.7	9.0	9.2	9.3	9.4	7.0	8.1	9.0
Other Equipment	8.8	9.0	9.9	9.9	10.3	8.8	8.4	9.4
Annual Rates of Change								
Total Equipment	-15.3	16.5	26.4	-1.0	32.9	8.3	2.9	3.3
Information Processing & Related Eq.	-18.8	12.5	48.4	-7.0	53.4	19.8	6.8	6.9
Office & Computing Machinery	-20.2	16.5	69.8	-2.1	93.3	35.1	8.4	8.6
Communication Equipment	-16.8	7.7	32.9	-18.1	15.5	6.7	5.5	7.0
Scientific & Engineering Inst.	-17.9	5.6	10.4	-3.4	4.8	11.7	5.8	1.7
Photocopy & Related Equipment	-17.1	9.8	15.3	-8.1	-8.0	-4.3	2.5	1.6
Industrial Equipment	-6.5	-1.0	13.3	15.5	15.2	3.7	0.9	2.8
Fabricated Metals	2.6	-9.2	-14.1	8.2	13.0	-2.1	-4.2	-4.0
Metalworking Machinery	-9.3	1.1	-10.1	20.2	11.9	7.1	0.9	-2.9
Special Industrial Eq.	7.8	-3.7	37.8	50.4	30.4	2.4	11.3	15.2
General Industrial Eq.	-19.1	3.7	31.5	-11.4	4.5	4.6	-3.9	0.9
Transportation Equipment	-26.7	55.3	4.2	-11.2	34.2	3.3	-1.0	-4.6
Trucks, Buses & Trailers	12.5	39.4	9.7	-6.9	14.7	7.2	-5.8	5.3
Autos	-68.1	86.7	21.7	-14.5	80.8	-6.8	-3.6	-19.5
Aircraft	-3.6	71.3	-35.8	-13.3	34.9	25.2	22.0	-4.1
Ships & Boats	-93.4	34.6	4.4	-7.3	-22.0	-20.2	-16.2	-31.4
Railroad Equipment	17.7	-1.6	281.8	-37.6	53.9	-14.8	-12.9	18.1
Energy and Related Eq.	-26.3	15.8	13.9	12.6	-2.2	-2.6	-4.8	2.7
Engines & Turbines	-93.8	69.4	49.9	309.6	-70.1	5.3	1.9	-15.3
Electrical Trans. & Dist. Eq.	-6.8	7.5	6.0	-3.8	10.4	-1.7	-0.1	2.7
Mining & Oilfield Machinery	21.0	33.8	33.9	0.8	18.8	-8.9	-24.4	15.0
Miscellaneous Equipment	2.5	10.4	19.8	7.0	15.1	0.4	3.2	4.5
Furniture & Fixtures	-8.2	2.9	6.7	21.5	1.9	5.0	0.4	3.8
Tractors	14.7	-1.5	48.1	-11.1	36.6	-15.7	4.3	4.4
Agricultural Machinery	78.1	-6.6	54.7	-5.4	41.4	-10.6	-0.9	15.8
Construction Machinery	-19.0	30.5	17.4	10.4	6.6	9.9	10.1	-11.1
Service Industry Machinery	6.9	20.4	-9.1	18.5	20.9	3.7	-2.2	3.0
Electrical Equipment, n.e.c.	-16.8	15.2	8.9	4.8	7.3	-2.3	16.2	11.6
Other Equipment	18.5	11.6	46.6	-1.2	18.5	2.7	-3.9	11.4

technological improvements in computers, the price deflator for office equipment has declined at an average annual rate of more than 13% in the 1980s.

Survey respondents predict their product prices will rise an average 4.1% this year (Table VIII), and expect sales to climb 8.2%. If both expectations are realized, real sales will rise 4.1% (Tables VI and VII). This figure is slightly more subdued than the real sales advance projected in the November survey, when respondents expected product price hikes of only 3.1%. (This number is close to DRI's current estimate of 1988 product price inflation.)

INVESTMENT PRIORITIES

The near 10% increase planned for 1988 capital budgets aside, the most significant trend to emerge from the latest survey results is the renewed emphasis on plant expansion. Manufacturers plan to spend 31% of their capital funds on expansion projects, up 5 percentage points from the 1987 share (Table II). This is an encouraging trend, no doubt influenced by the recent export-driven manufacturing surge that has pushed up operating rates in most industries.

Chart 3
Investment in Expansion Versus Modernization
by All Manufacturing Industries
(Percent of capital spending)

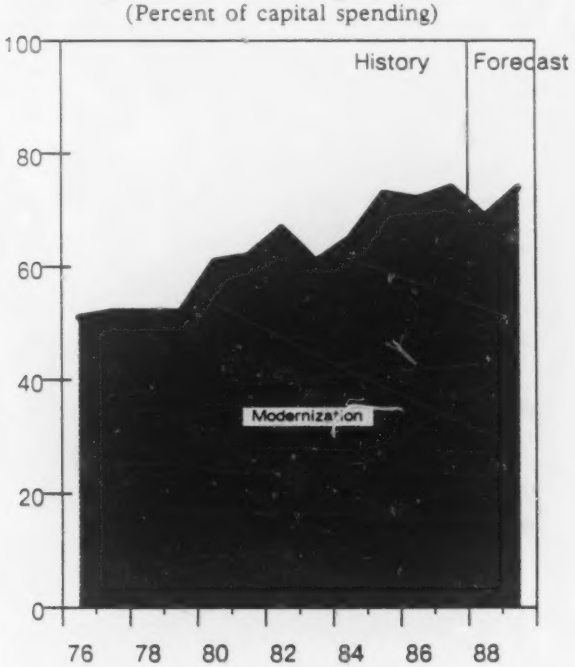


Chart 4
Investment in Equipment Versus Buildings
by All Businesses
(Percent of capital spending)

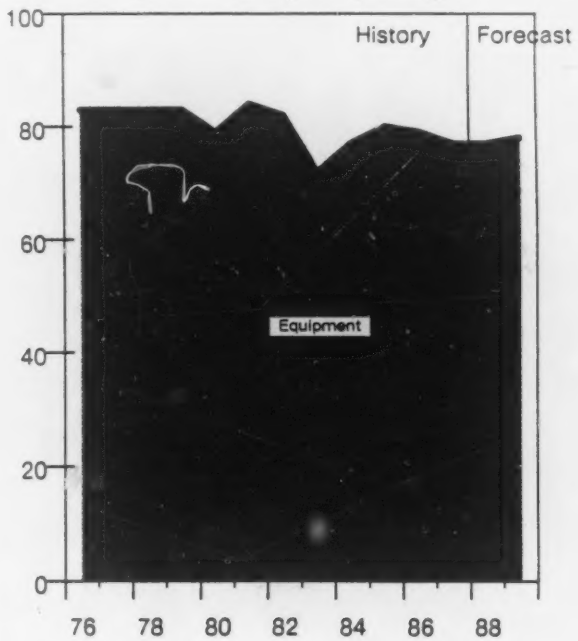


Table 2
Nonresidential Construction
(Billions of 1982 dollars)

	Quarterly					Annual		
	87:1	87:2	87:3	87:4	88:1	1985	1986	1987
	Billions of 1982 dollars							
Total Structures.....	120.38	120.38	127.20	129.83	127.59	149.37	130.27	124.45
Buildings & Other.....	76.15	74.69	75.96	78.90	77.56	89.82	82.68	76.42
Offices.....	21.71	20.27	21.03	22.07	21.84	28.15	24.77	21.27
Stores & Warehouses..	22.26	22.42	22.15	23.13	21.89	25.00	24.40	22.49
Industrial.....	10.01	10.25	10.92	11.02	11.02	14.06	11.91	10.55
Institutional.....	9.66	9.44	9.36	10.41	10.66	8.62	8.74	9.72
Educational.....	2.46	2.37	2.19	2.68	2.25	1.49	1.71	2.42
Religious.....	2.26	2.26	2.27	2.12	2.40	2.15	2.34	2.23
Hospitals.....	4.94	4.81	4.90	5.61	6.01	4.98	4.69	5.06
All Other.....	12.51	12.32	12.50	12.28	12.15	13.99	12.86	12.40
Public Utilities.....	22.56	23.85	26.26	26.18	25.76	24.21	24.14	24.71
Telephone & Telegraph	7.02	7.20	8.07	7.76	6.82	6.90	7.52	7.51
Mining & Petroleum.....	21.67	21.85	24.99	24.75	24.27	35.33	23.45	23.32
	Annual Rates of Change							
Total Structures.....	-13.0	0.0	24.6	8.5	-6.7	3.9	-12.8	-4.5
Buildings & Other.....	-20.5	-7.4	6.9	16.4	-6.6	13.1	-8.0	-7.6
Offices.....	-22.8	-24.1	15.8	21.3	-4.1	17.9	-12.0	-14.1
Stores & Warehouses..	-23.9	3.0	-4.7	18.8	-19.7	22.6	-2.4	-7.8
Industrial.....	-47.3	10.0	28.8	3.7	0.3	11.1	-15.3	-11.4
Institutional.....	23.4	-9.1	-3.3	53.1	10.1	-5.0	1.4	11.1
Educational.....	192.2	-14.6	-27.3	124.6	-50.0	14.8	14.4	41.8
Religious.....	-26.4	0.7	1.1	-23.5	63.6	9.3	9.0	-4.8
Hospitals.....	8.1	-10.6	8.3	71.5	31.9	-14.2	-5.7	7.9
All Other.....	-6.6	-6.0	6.1	-6.8	-4.3	4.1	-8.1	-3.5
Public Utilities.....	-13.0	24.8	47.0	-1.2	-6.4	-0.8	-0.3	2.4
Telephone & Telegraph	-21.3	10.8	57.2	-14.4	-40.2	2.8	9.0	-0.1
Mining & Petroleum.....	21.6	3.3	71.1	-3.7	-7.5	-11.5	-33.6	-0.6

Nonetheless, this turnaround has a way to go. As recently as 1978, manufacturers devoted nearly equal amounts to both expansion and replacement/modernization needs. Last year's 26% share for expansion was a record low. Modernization spending does facilitate output expansion, however, since process and assembly improvements contribute directly to productivity advances: witness computer-aided design and manufacturing automation.

The trend toward expansion is most pronounced for durable manufacturers: their budgets rose from 22% last year to 32% in 1988. Considering that the aggregate operating rate reported by durable manufacturers stood at 83.5% by year-end 1987, the preferred rate of 91.6% reveals ample idle capacity and little justification for ambitious expansion spending (Table V). Makers of iron and steel, nonferrous metals, and other durables, however, are all at or above their preferred rates. Nonetheless, durable

Chart 5
Investment in New Plants and Equipment: All Businesses
(Billions of dollars)

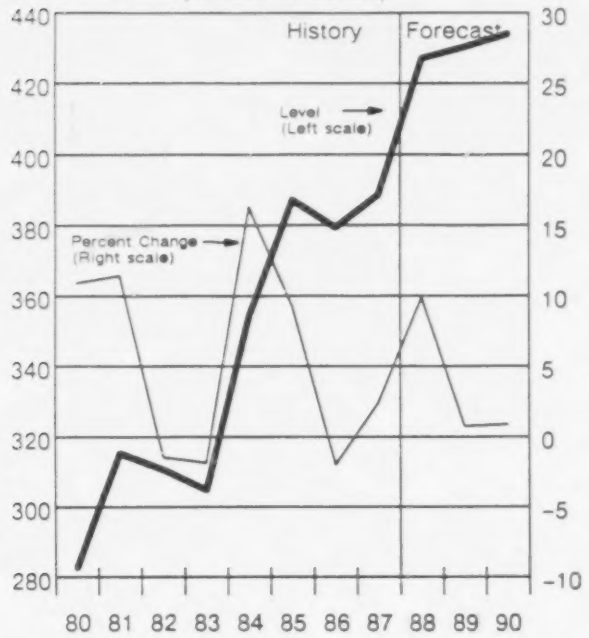
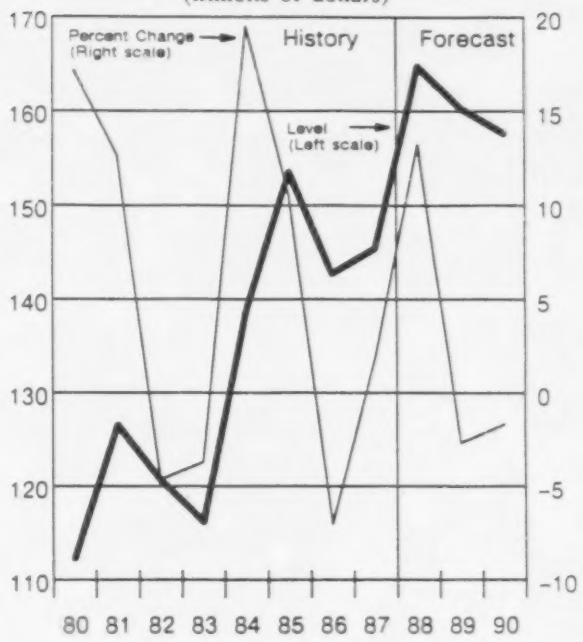


Chart 6
Investment in New Plants and Equipment: All Manufacturing Industries
(Billions of dollars)



manufacturers indicated plans to increase investment in buildings from 13% of capital spending in 1987 to 17% in 1988 (Table III).

Nondurable manufacturers, on the other hand, report a 32% slice of investment funds earmarked for expansion, up only 2 percentage points from 1987. Here, the chemicals, paper, and textiles industries are near their preferred rate of operation and, not surprisingly, plan moderate increases in expansion spending.

INDUSTRY HIGHLIGHTS

Investment among all nondurable manufacturers is up. In the chemical industry, which closed much excess capacity in the early 1980s, capacity utilization rates are flirting with the preferred rate of 84.6%. Moreover, the industry posted a $9.3 billion trade surplus in 1987 and is already running ahead of last year's pace in 1988. After cutting investment 2.7% in 1987, chemical companies plan a 19.5% increase this year; except for some weakness in the synthetics and detergents industries, double-digit gains prevail among the various product groups.

Table 3
Durables Indicators
(Billions of dollars)

	Quarterly					Annual		
	87:1	87:2	87:3	87:4	88:1	1985	1986	1987
Iron & Steel								
Capacity Utilization Rate (%)	66.5	71.7	81.0	90.4	85.1	67.5	64.2	77.4
Shipments	41.5	44.8	50.2	56.2	55.8	48.1	42.5	48.2
New Orders	42.1	52.7	52.9	58.7	53.5	48.3	43.2	51.6
After-Tax Profits	1.4	1.6	1.4	1.0	NA	-1.3	-3.4	1.4
Nonferrous Metals								
Capacity Utilization Rate (%)	80.1	79.2	82.3	86.7	83.0	80.6	79.0	82.1
Shipments	48.5	50.7	54.5	62.0	60.7	51.5	48.5	53.9
New Orders	48.5	53.0	56.4	64.5	63.2	51.0	47.8	55.6
After-Tax Profits	1.1	0.3	2.1	0.8	NA	-1.0	0.8	1.1
Electrical Machinery								
Capacity Utilization Rate (%)	74.7	74.5	75.7	76.5	77.0	76.5	73.6	75.4
Shipments	214.5	219.7	229.0	232.0	236.0	192.5	204.6	223.8
New Orders	200.1	231.0	234.6	240.2	235.6	200.2	206.7	226.5
After-Tax Profits	7.9	9.7	10.0	7.8	NA	6.9	7.6	8.8
Nonelectrical Machinery								
Capacity Utilization Rate (%)	71.9	73.8	75.7	76.8	78.7	75.7	72.8	74.5
Shipments	202.1	206.2	219.1	224.0	238.2	215.0	205.2	212.9
New Orders	201.6	211.4	224.3	224.7	241.9	213.0	198.8	215.5
After-Tax Profits	3.0	12.9	11.3	14.5	NA	9.7	6.6	10.4
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	82.3	78.0	76.5	80.0	77.8	83.2	80.2	79.2
Shipments	206.0	197.5	188.4	206.6	204.5	188.6	195.6	199.6
After-Tax Profits	11.6	13.2	8.1	9.5	NA	9.1	8.4	10.6
Aerospace								
Shipments	96.7	101.5	98.8	107.3	100.4	90.8	98.9	101.1
New Orders	100.5	115.9	120.9	126.5	136.8	100.8	103.8	115.9
After-Tax Profits	4.1	4.6	4.8	3.7	NA	3.3	3.1	4.3
Fabricated Metals								
Capacity Utilization Rate (%)	77.4	77.6	77.9	79.9	82.0	78.7	77.7	78.2
Shipments	135.6	134.5	132.1	134.2	139.3	139.6	135.9	134.1
New Orders	134.5	135.4	133.9	135.4	138.6	137.5	134.8	134.8
After-Tax Profits	2.1	5.1	5.7	5.1	NA	3.4	3.2	4.5
Instruments								
Capacity Utilization Rate (%)	78.1	78.8	79.2	79.3	79.9	82.5	79.5	78.9
Shipments	60.9	62.7	64.2	64.8	66.3	61.0	60.7	63.1
New Orders	61.7	63.9	65.7	64.3	67.0	60.9	60.5	63.9
After-Tax Profits	3.9	4.2	4.9	5.2	NA	3.6	1.1	4.5
Stone, Clay & Glass								
Capacity Utilization Rate (%)	83.4	81.7	80.7	81.4	82.0	81.3	82.8	81.8
Shipments	60.7	59.9	59.6	63.8	62.1	55.1	56.9	61.0
New Orders	60.6	59.7	60.4	63.4	61.7	55.3	56.8	61.0
After-Tax Profits	2.6	3.4	3.9	1.7	NA	1.6	2.1	2.9

Note: Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

After modest investment growth of 2.1% in 1986 and 1.8% in 1987, the paper and pulp industry is ready for a dramatic upswing in capital spending. Shipments are still on the rise and, by all measures, the industry is running near its preferred operating rate of 98.1%. In fact, paper companies plan to push the expansion share of capital outlays up 5 percentage points in 1988, to 34%.

With shipments increasing steadily, food and beverage processors also look for robust investment in 1988 after only modest increases in the previous two years. Still, operating rates remain well below the preferred rate and belie the stronger investment boost planned for 1988.

Petroleum refiners also appear ready for a turnaround in investment spending. Although initially destabilizing, the drop in crude oil prices in fall 1986 has been beneficial in the long run, as low feedstock costs eventually boosted profit margins. The industry's capacity utilization is now pushing 90%. After

Table 4
Nondurables Indicators
(Billions of dollars)

	Quarterly					Annual		
	87:1	87:2	87:3	87:4	88:1	1985	1986	1987
Chemicals								
Capacity Util. Rate (%)	80.9	81.9	83.6	84.8	85.4	78.0	79.7	82.8
Shipments	204.2	212.7	217.0	224.0	231.7	196.9	198.0	214.5
After-Tax Profits	17.0	15.5	22.4	10.7	NA	9.5	12.9	16.4
Paper								
Capacity Util. Rate (%)	92.5	92.8	96.6	95.7	95.5	88.7	92.2	94.4
Shipments	112.6	115.1	121.7	125.8	128.6	93.4	103.8	118.8
After-Tax Profits	4.0	4.8	5.7	5.4	NA	2.9	3.3	5.0
Rubber & Plastics								
Capacity Util. Rate (%)	85.2	87.3	87.8	88.4	88.6	86.7	85.0	87.2
Shipments	78.1	78.7	76.2	81.8	84.6	71.3	72.2	78.7
After-Tax Profits	3.3	3.6	3.2	3.7	NA	1.6	2.1	3.5
Petroleum								
Capacity Util. Rate (%)	84.8	84.4	84.6	85.4	96.9	80.6	85.3	84.8
Shipments	121.0	128.8	136.4	132.8	122.5	179.1	129.4	129.8
After-Tax Profits	11.3	17.7	15.3	-0.7	NA	12.7	8.8	10.9
Food & Beverage								
Capacity Util. Rate (%)	79.9	79.9	80.4	79.8	80.7	80.3	80.3	80.0
Shipments	324.9	331.7	338.9	343.0	350.9	301.6	314.4	334.6
Textiles								
Capacity Util. Rate (%)	88.5	92.7	94.2	92.8	90.8	83.3	88.0	92.0
Shipments	55.4	55.8	58.0	57.0	56.4	53.2	54.5	56.6
After-Tax Profits	1.5	1.5	2.2	2.1	NA	1.2	1.7	1.9

Note: Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

slashing investment nearly 33% in 1986 and another 5.5% in 1987, refiners project a 13.6% jump in 1988. Because this industry's investment includes integrated oil companies' exploration spending, the rise may be overly optimistic given the recent weakness in oil prices.

The textiles industry has nudged up against its preferred operating rate of 95.9% after extensive restructuring earlier in the decade. Meanwhile, shipments and profits are healthy. Textile companies plan to follow up their 16.9% spending boost in 1987 with another 5.2% increase in 1988.

While nondurable manufacturers are now more optimistic than when polled by DRI earlier this year, durable manufacturers' plans are little changed: overall, they maintain their prediction of 9.5% spending growth in 1988. The heaviest spending industry, electrical machinery producers, projects a 13.0% increase in 1988 despite an operating rate some 8 points below its preferred rate. Nonetheless, the optimism within the product groups is nearly unanimous: only makers of electrical distributing equipment plan a cutback. Makers of electric lighting and wiring products and electronic components reported the largest spending gains, with makers of electrical industrial apparatus and communication equipment also planning double-digit increases.

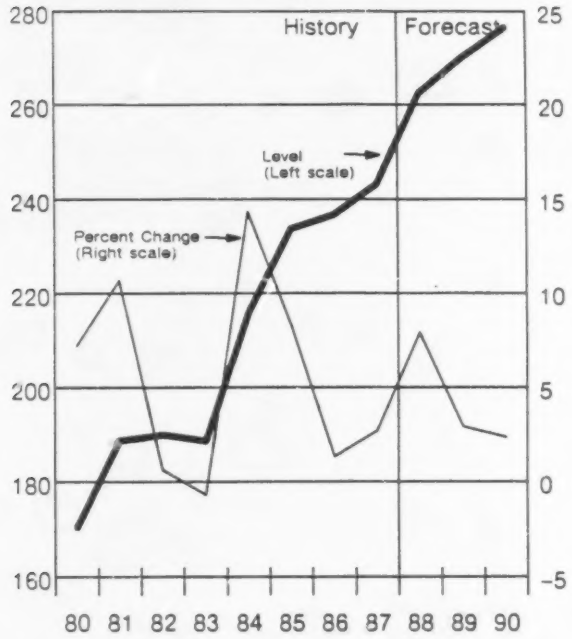
Nonelectrical machinery industries intend to raise investment outlays 8.1% this year. With their industry-wide operating rate gaining 7.3 percentage points between year-end 1986 and year-end 1987, nonelectrical manufacturers reported a bullish 14-point boost in the share of their capital budgets devoted to expansion. Only farm equipment manufacturers foresee a spending cutback this year. Special industry, the refrigeration and service industry, the metalworking industry, and makers of computers and other office machinery predict the largest spending gains.

Automobile and truck makers reported the only significant 1988 cutback among durable manufacturers. The problems of overcapacity and excess inventories have not been solved by cut-rate financing and clearout sales, which consumers now expect. In addition, Japanese automakers are increasing U.S. production to beat import quotas.

In the nonmanufacturing sector, airlines, railroads, other transportation, and mining companies all show double-digit investment increases for 1988. Within the other transportation industry, trucking and warehouse companies account for the spending boost. In the mining industry, metal mining, oil well services, and oil and gas extraction firms lead the advance.

The electric utility industry reduced its investment budgets by 6.1% in 1986 and another 6.9% in 1987. The industry overanticipated consumer demand in the 1970s and remains saddled with excess capacity

Chart 7
Investment in New Plants and Equipment:
All Nonmanufacturing Industries
(Billions of dollars)



from plant building at that time. The recently agreed-upon state takeover and eventual mothballing of New York's Shoreham nuclear plant highlights a troubled industry unsure of the future. Electric utilities report another 7.0% spending cutback in 1988.

Despite weak sales, gas utilities still look toward a 7.5% spending gain in 1988. Communications companies also report an outlay advance of 7.6%; healthy telephone industry profits have apparently buoyed the optimism within this volatile and highly competitive market. Survey respondents also reported aggregate spending upticks of 0.8% in 1989 and 0.9% in 1990. These projections are too tentative to be given much consideration.

NOTES ON THE SURVEY

The results discussed here are based on the responses of 366 firms to the DRI/McGraw-Hill survey taken in April and May. These firms account for 19.4% of all 1987 capital spending in the country (Table IX). Firms supplied current-dollar estimates of future capital spending as well as actual investment in 1987.

From these responses, percentage changes for 1987-88 and 1988-89 were calculated. Firms with a disproportionate share of the sample's capital spending and/or extreme percentage changes were removed

Table 5
Nonmanufacturing Indicators

	Quarterly					Annual		
	87:1	87:2	87:3	87:4	88:1	1985	1986	1987
Mining								
Bituminous Coal Production --Thousand short tons	883,620	869,340	924,592	973,148	948,872	878,930	886,022	912,675
Refiners' Acquisition Price of Oil--Dollars	16.57	17.73	19.01	17.78	15.43	26.66	14.76	17.77
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	905.6	922.0	969.2	994.8	NA	875.8	874.5	947.9
New Freight Cars, Unfilled Orders --Thousands of cars	3.9	5.4	5.5	6.7	NA	1.8	2.7	5.4
Airlines								
Passenger-Miles Revenue--Billions	366.9	417.0	452.0	NA	NA	331.7	362.0	NA
Passenger Load Factor--(%)	59.8	64.5	66.0	NA	NA	61.4	60.2	NA
Electric Utilities								
Electricity Output --Billions of kw-hr	2,493	2,583	2,630	2,570	2,646	2,470	2,487	2,569
Electric Utility Revenues --Millions of dollars	148,825	147,031	180,338	147,908	NA	149,373	152,977	156,025
Gas Utilities								
Natural Gas Sales--Trillion btu	15,724	8,229	6,966	11,658	NA	12,724	11,034	10,644
Gas Utility Revenues --Millions of dollars	69,672	35,655	24,950	49,314	NA	63,316	51,223	44,898
Communications								
Commercial Construction --Billions of 1982 dollars	44.0	42.7	43.2	45.2	43.7	53.1	49.2	43.8
Consumer Spending on Financial Services --Billions of 1982 dollars	100.9	101.3	102.5	104.4	106.0	95.5	99.0	102.3
Trade and Services								
Retail Sales--Billions of dollars, SA	1,456.9	1,504.3	1,540.1	1,530.7	1,565.2	1,366.2	1,437.3	1,508.0
Consumer Spending On Personal & Business Services	366.0	364.5	367.8	370.1	373.5	336.6	352.3	367.1
Medical Services --Billions of 1982 dollars	258.7	262.0	265.2	267.2	268.5	240.8	251.9	263.3

from the sample when calculating industry growth rates. These growth rates were then applied to the prior period's level of spending, excluding outliers. Spending by outliers for the current period was then added back in.

In cases where a share or rate is provided, individual responses are weighted by the firm's share of capital spending. Extreme responses are removed from the sample when computing industry answers.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending
(Billions of dollars)

Industry	Level				Percent Change		
	1987	1988	1989	1990	1988	1989	1990
Iron & Steel	4.63	5.97	5.36	4.65	29.0	-10.2	-13.2
Nonferrous Metals	2.14	2.52	3.21	3.22	17.9	27.5	0.2
Electrical Machinery	15.26	17.25	15.53	14.57	13.0	-9.9	-6.2
Non-Electrical Machinery	13.77	14.88	13.14	11.11	8.1	-11.7	-15.4
Autos, Trucks & Parts	12.02	11.25	12.14	11.60	-6.4	7.9	-4.5
Aerospace	3.55	4.14	2.92	3.11	16.6	-29.4	6.4
Fabricated Metals	4.01	4.41	4.49	4.67	10.0	1.7	4.0
Instruments (a)	2.35	2.96	2.67	2.66	26.0	-9.9	-0.3
Stone, Clay & Glass	3.36	3.36	3.36	3.43	-0.1	0.0	2.2
Other Durables (a)	9.83	10.94	10.95	12.79	11.4	0.0	16.8
TOTAL DURABLES	70.91	77.68	73.77	71.81	9.5	-5.0	-2.7
Chemicals	16.37	19.55	20.50	21.18	19.5	4.8	3.3
Paper & Pulp	8.92	11.64	11.94	8.58	30.5	2.6	-28.2
Rubber & Plastic (b)	3.52	3.74	4.06	4.62	6.4	8.5	13.7
Petroleum	16.94	19.24	21.35	21.38	13.6	10.9	0.1
Food & Beverage	11.04	13.12	13.33	14.36	18.9	1.6	7.8
Textiles	1.95	2.05	2.13	2.13	5.2	3.8	0.0
Other Nondurables	15.80	17.65	13.20	13.58	11.7	-25.2	2.8
TOTAL NONDURABLES	74.54	87.01	86.52	85.82	16.7	-0.6	-0.8
ALL MANUFACTURING	145.45	164.70	160.29	157.63	13.2	-2.7	-1.7
Mining	11.34	13.67	14.74	14.37	20.6	7.9	-2.5
Railroads (c)	5.91	7.01	8.02	8.25	18.7	14.4	2.8
Airlines	6.55	9.37	9.60	9.38	43.1	2.4	-2.3
Other Transportation	6.39	7.56	7.35	7.21	18.3	-2.8	-2.0
Electric Utilities	31.57	29.35	28.28	26.89	-7.0	-3.7	-4.9
Gas & Other Utilities	13.19	14.17	14.17	14.38	7.5	0.0	1.5
Communications	32.10	34.52	35.94	34.89	7.6	4.1	-2.9
Trade & Services (b)	136.09	146.71	151.93	161.07	7.8	3.6	6.0
ALL NONMANUFACTURING	243.14	262.37	270.04	276.44	7.9	2.9	2.4
ALL BUSINESS	388.59	427.07	430.33	434.08	9.9	0.8	0.9

a. Historical data for the instruments series is taken from the Census Bureau's Survey of Manufacturers. Data for 1987 are from the November 1987 DRI/McGraw-Hill Survey. The other durables category is redefined to have components' sum equal total durables.
b. DRI estimate.
c. DRI estimate for 1990.

Table II
Expansion versus Modernization
(Percent of capital spending)

Industry	Actual 1987		Planned 1988		Planned 1989	
	Expans.	Replace. Modern.	Expans.	Replac. Modern.	Expans.	Replace. Modern.
Iron & Steel.....	27	73	32	68	6	94
Nonferrous Metals.....	17	83	27	73	27	73
Electrical Machinery....	27	73	30	70	25	75
Non-Electrical Machinery	10	90	24	76	3	97
Autos, Trucks & Parts...	15	85	45	55	28	72
Aerospace.....	19	81	24	76	3	97
Fabricated Metals.....	19	81	21	79	15	85
Instruments.....	41	59	40	60	39	61
Stone, Clay & Glass.....	16	84	11	89	10	90
Other Durables.....	40	60	45	55	41	59
TOTAL DURABLES.....	22	78	32	68	21	79
Chemicals.....	32	68	36	64	35	65
Paper & Pulp.....	29	71	34	66	49	51
Rubber & Plastic.....	25	75	43	57	43	57
Petroleum.....	34	66	35	65	6	94
Food & Beverage.....	39	61	41	59	68	32
Textiles.....	0	100	6	94	0	100
Other Nondurables.....	21	79	17	83	19	81
TOTAL NONDURABLES.....	30	70	32	68	32	68
ALL MANUFACTURING.....	26	74	31	69	26	74
Mining.....	48	52	58	42	61	39

Table III
Buildings, Motor Vehicles, and Other Machinery and Equipment
(Percent of capital spending)

Industry	Actual 1987			Planned 1988			Planned 1989		
	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment
Iron & Steel	12	4	85	13	4	83	5	2	93
Nonferrous Metals	13	1	86	13	1	86	3	1	96
Electrical Machinery	14	1	85	16	0	84	12	0	88
Non-Electrical Machinery	14	1	85	31	1	68	28	1	71
Autos, Trucks & Parts	14	0	86	12	0	88	12	0	88
Aerospace	18	4	78	31	1	68	7	4	89
Fabricated Metals	12	2	86	16	2	82	14	2	84
Instruments	24	2	74	26	2	72	15	3	81
Stone, Clay & Glass	15	7	79	11	8	81	11	8	80
Other Durables	5	6	90	5	5	90	29	2	69
TOTAL DURABLES	13	2	85	17	2	81	17	1	82
Chemicals	13	2	86	12	2	86	10	2	88
Paper & Pulp	7	1	92	5	1	94	5	0	94
Rubber & Plastic	7	4	90	7	1	92	6	1	92
Petroleum	0	1	99	0	1	98	0	0	100
Food & Beverage	16	3	82	14	3	84	20	2	78
Textiles	9	1	90	19	1	81	9	1	90
Other Nondurables	19	4	77	11	5	84	11	7	82
TOTAL NONDURABLES	11	2	87	9	2	89	8	2	90
ALL MANUFACTURING	12	2	86	13	2	85	12	2	86
Mining	1	1	98	1	1	98	1	1	98
Railroads	61	2	37	48	1	51	45	1	54
Airlines	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other Transportation	6	19	76	5	20	74	7	16	78
Electric Utilities	8	1	91	8	2	91	8	2	90
Gas Utilities	40	4	56	21	4	75	18	4	78
Communications	8	3	89	8	3	89	8	3	89
Trade & Services	42	3	54	43	4	53	39	4	57
ALL NONMANUFACTURING	30	3	66	30	4	67	27	4	69
ALL BUSINESS	23	3	74	23	3	74	22	3	75

Table IV
Capacity Expansion
(1977=100)

Industry	Level				Percent Change		
	1986	1987	1988	1989	1986-87	1987-88	1988-89
Iron & Steel	87	78	87	85	-10.7	12.3	-2.1
Nonferrous Metals	108	117	111	113	7.9	-5.0	2.1
Electrical Machinery	171	183	197	216	6.9	7.9	9.6
Non-Electrical Machinery	128	139	157	164	8.5	13.0	4.8
Autos, Trucks & Parts	114	118	123	128	3.3	4.5	4.2
Other Transportation Equip.	143	153	192	206	6.7	25.9	7.3
Fabricated Metals & Instruments	146	154	165	172	5.3	7.1	4.4
Stone, Clay & Glass	131	145	151	159	10.4	4.4	5.3
Chemicals	133	140	148	152	5.5	5.3	2.6
Paper & Pulp	139	147	151	156	5.8	2.9	3.1
Rubber & Plastic	122	130	141	151	6.7	8.5	6.6
Petroleum	97	97	98	98	0.5	0.0	0.0
Food & Beverage	158	165	171	179	4.4	3.8	4.2
Textiles	137	137	138	138	0.0	0.9	0.0
Miscellaneous Manufacturing	131	140	146	151	7.2	3.7	4.0
ALL MANUFACTURING	135	142	152	159	5.5	6.9	4.3
Electric & Gas Utilities	113	117	120	122	3.8	1.9	2.2

Table V
Capacity Utilization Rates
(Percent)

Industry	Year-end 1986	Year-end 1987	Point Difference 1986-87	Preferred Rate of Operation
Iron & Steel	85.2	91.4	6.2	90.3
Nonferrous Metals	85.1	96.3	11.2	96.1
Electrical Machinery	80.3	79.2	-1.1	87.9
Non-Electrical Machinery	73.4	80.7	7.3	86.9
Autos, Trucks & Parts	99.8	94.0	-5.8	99.3
Aerospace	82.7	80.9	-1.8	90.0
Fabricated Metals	73.6	70.0	-3.6	93.6
Instruments	76.0	72.3	-3.7	92.8
Stone, Clay & Glass	82.6	78.8	-3.8	85.8
Other Durables	81.9	94.5	12.6	94.8
TOTAL DURABLES	80.8	83.5	2.7	91.6
Chemicals	79.2	83.6	4.4	84.6
Paper & Pulp	92.6	96.6	4.0	98.1
Rubber & Plastic	89.1	83.2	-5.9	88.8
Petroleum	87.9	90.5	2.6	98.9
Food & Beverage	81.8	78.6	-3.2	91.5
Textiles	95.9	95.8	-0.1	95.9
Other Nondurables	79.8	74.2	-5.6	91.8
TOTAL NONDURABLES	83.6	82.6	-1.0	91.2
ALL MANUFACTURING	82.0	83.1	1.1	91.4
Electric Utilities	70.9	73.7	2.8	83.9
Gas Utilities	86.4	73.4	-13.0	90.7

Table VI
Sales Expectations
(Billions of dollars)

Industry	1987 Actual	1988 Expected	1987-88 % Change
Iron & Steel	48.2	50.0	3.8
Nonferrous Metals	53.9	59.7	10.7
Electrical Machinery	223.8	241.4	7.8
Non-Electrical Machinery	212.9	237.6	11.6
Autos, Trucks & Parts	199.6	NA	NA
Aerospace	101.1	111.0	9.8
Fabricated Metals	134.1	147.2	9.8
Instruments	63.1	70.2	11.2
Stone, Clay & Glass	61.0	69.4	13.8
Other Durables	164.0	184.3	12.4
TOTAL DURABLES	1,261.7	1,387.8	10.0
Chemicals	214.5	233.4	8.8
Paper & Pulp	118.8	127.6	7.4
Rubber & Plastic	78.7	80.1	1.9
Petroleum	129.8	135.6	4.5
Food & Beverage	334.6	357.0	6.7
Textiles	56.6	55.0	-2.8
Other Nondurables	211.2	232.6	10.2
TOTAL NONDURABLES	1,144.1	1,221.4	6.7
ALL MANUFACTURING	2,405.8	2,609.2	8.5
Mining	NA	NA	11.9
Railroads	NA	NA	5.8
Airlines	NA	NA	NA
Other Transportation	NA	NA	18.3
Electric Utilities	NA	NA	3.5
Gas Utilities	NA	NA	3.4
Communications	NA	NA	1.7
Trade & Services	NA	NA	10.3
ALL NONMANUFACTURING	NA	NA	8.0
ALL BUSINESS	NA	NA	8.2

Table VII
Real Sales Expectations
(Billions of 1987 dollars)

Industry	1987	1988 Expected	1987-88 % Change
Iron & Steel	48.2	47.7	-1.1
Nonferrous Metals	53.9	53.0	-1.7
Electrical Machinery	223.8	233.9	4.5
Non-Electrical Machinery	212.9	235.0	10.4
Autos, Trucks & Parts	199.6	NA	NA
Aerospace	101.1	106.1	4.9
Fabricated Metals	134.1	142.0	5.9
Instruments	63.1	69.2	9.6
Stone, Clay & Glass	61.0	68.2	11.7
Other Durables	164.0	175.4	7.0
TOTAL DURABLES	1,261.7	1,341.3	6.3
Chemicals	214.5	225.3	5.1
Paper & Pulp	118.8	119.7	0.8
Rubber & Plastic	78.7	75.3	-4.3
Petroleum	129.8	132.1	1.8
Food & Beverage	334.6	341.8	2.1
Textiles	56.6	53.9	-4.7
Other Nondurables	211.2	222.3	5.2
TOTAL NONDURABLES	1,144.1	1,170.3	2.3
ALL MANUFACTURING	2,405.8	2,511.6	4.4
Mining	NA	NA	-1.9
Railroads	NA	NA	2.3
Airlines	NA	NA	NA
Other Transportation	NA	NA	15.0
Electric Utilities	NA	NA	1.5
Gas Utilities	NA	NA	-0.2
Communications	NA	NA	0.2
Trade & Services	NA	NA	5.7
ALL NONMANUFACTURING	NA	NA	3.9
ALL BUSINESS	NA	NA	4.1

Table VIII
Inflation Expectations
(Percentage change)

Industry	Expected %Change, 1987-88	
	Plant & Equipment Prices	Product Prices
Iron & Steel	8.6	5.0
Nonferrous Metals	7.0	12.7
Electrical Machinery	3.9	3.2
Non-Electrical Machinery	3.0	1.1
Autos, Trucks & Parts	NA	NA
Aerospace	5.9	4.6
Fabricated Metals	3.8	3.7
Instruments	2.2	1.4
Stone, Clay & Glass	3.8	1.9
Other Durables	4.7	5.0
TOTAL DURABLES	4.3	3.7
Chemicals	4.9	3.6
Paper & Pulp	6.1	6.6
Rubber & Plastic (b)	4.1	6.5
Petroleum	3.8	2.7
Food & Beverage	3.2	4.4
Textiles	4.5	2.1
Other Nondurables	5.3	4.7
TOTAL NONDURABLES	4.6	4.5
ALL MANUFACTURING	4.5	4.1
Mining	4.9	13.8
Railroads (c)	3.1	3.5
Airlines	4.0	NA
Other Transportation	4.0	3.3
Electric Utilities	4.2	2.0
Gas & Other Utilities	4.1	3.6
Communications	3.0	1.5
Trade & Services (b)	4.8	4.6
ALL NONMANUFACTURING	4.4	4.1
ALL BUSINESS	4.4	4.1

Table IX
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	15.5
Nonferrous Metals	41.2
Electrical Machinery	23.8
Non-Electrical Machinery	16.6
Autos, Trucks & Parts	85.4
Aerospace	35.2
Fabricated Metals	4.4
Instruments	12 2
Stone, Clay & Glass	16.2
Other Durables	5.7
TOTAL DURABLES	29.0
Chemicals	21.1
Paper & Pulp	10.2
Rubber & Plastic	3.5
Petroleum	64.8
Food & Beverage	16.1
Textiles	5.8
Other Nondurables	3.9
TOTAL NONDURABLES	24.1
ALL MANUFACTURING	26.5
Mining	7.1
Railroads	21.8
Airlines	24.2
Other Transportation	7.0
Electric Utilities	59.8
Gas Utilities	5.7
Communications	29.8
Trade & Services	2.5
ALL NONMANUFACTURING	15.1
ALL BUSINESS	19.4

Table X
Capital Spending Plans of the Petroleum Industry
(Millions of dollars)

Function	Level				Percent Change		
	1987	1988	1989	1990	1988	1989	1990
Exploration and Production	21,199	23,499	25,704	25,958	10.8	9.4	1.0
Refining	2,079	2,393	2,553	2,562	15.1	6.7	0.3
Petrochemicals	1,012	1,592	1,662	NC	57.3	4.4	NC
Transportation (a)	1,805	2,565	2,340	NC	42.1	-8.8	NC
Marketing	4,352	4,712	4,794	NC	8.3	1.7	NC
Other (b)	4,269	4,145	4,177	NC	-2.9	0.8	NC
TOTAL	34,716	38,905	41,231	NC	12.1	6.0	NC

a. Includes oil pipelines; does not include gas pipelines.
b. Includes coal mining.

Table XI
Capital Spending Plans of the Mining Industry
(Millions of dollars)

Industry	Level				Percent Change		
	1987	1988	1989	1990	1988	1989	1990
Nonmetallic....	1,006	594	659	553	-40.9	11.0	-16.1
Nonferrous.....	742	946	760	562	27.6	-19.7	-26.1
Iron Ore.....	182	NC	NC	NC	NC	NC	NC
Coal.....	3,764	3,543	3,501	NC	-5.9	-1.2	NC
MINING INDUSTRY	5,694	5,265	5,102	NC	-7.5	-3.1	NC

Table XII
Capital Spending in the Chemical Process Industry
(Billions of dollars)

Industry	1987	1988	1989	1990
Chemicals.....	16.37	19.55	20.50	21.18
Petrochemicals (a).	0.86	1.36	1.43	NC
Paper & Pulp.....	8.92	11.64	11.94	8.58
Rubber & Plastics..	3.52	3.74	4.06	4.62
Stone, Clay & Glass	3.36	3.36	3.36	3.43
Petroleum Refining.	2.48	2.85	3.02	3.04
Nonferrous Metals..	2.14	2.52	3.21	3.22
Coal Products.....	0.78	0.73	0.73	NC
Food & Beverage....	2.98	3.54	3.60	3.88
Textiles.....	0.39	0.41	0.43	0.43
Other CPI.....	1.50	1.68	1.25	1.29
Total CPI.....	43.30	51.39	53.54	NC

a. Petrochemical expenditures are for the petroleum industry alone.

Table XIII
Capital Spending Plans for the Energy Industries
(Millions of dollars)

Industry	1987	1988	1989	1990
Coal Mining (a).....	3,764	3,543	3,501	NC
Electric Utilities.....	31,575	29,355	28,281	26,893
Gas Utilities.....	13,185	14,172	14,168	14,381
Petroleum Industry.....	34,716	38,905	41,231	NC
Exploration & Production	21,199	23,499	25,704	25,958
Transportation.....	1,805	2,565	2,340	NC
Refining.....	2,079	2,393	2,553	2,562
Petrochemicals.....	1,012	1,592	1,662	NC
Marketing.....	4,352	4,712	4,794	NC
Other (a).....	4,269	4,145	4,177	NC
Total Energy Industries...	83,240	85,974	87,181	NC
Total All Industries.....	388,593	427,069	430,329	434,076
Energy Share (%).....	21	20	20	NC

a. There is some duplication of investment in other petroleum and coal mining.

Table XIV
Industry Detail Data

Industry	Capital Spending % Change 1988	1989	1990
Durables			
Iron & Steel (a)	41.3	-24.2	2.7
Nonferrous Metals (a)	8.6	-6.5	0.0
Primary Nonferrous Metals	8.6	-6.5	0.0
Electrical Machinery (a)	-0.2	1.6	-6.4
Electric Distributing Equipment	-6.5	0.3	-2.0
Electrical Industrial Apparatus	12.0	-7.1	3.8
Household Appliances	2.5	-16.7	-20.0
Electric Lighting and Wiring	51.6	-25.5	NA
Communication Equipment	13.6	-10.0	-13.0
Electronic Components	42.7	19.0	2.7
Misc. Electrical	29.2	31.1	-14.3
Non-Electrical Machinery (a)	13.1	-14.8	5.5
Farm Equipment	-44.5	0.0	0.0
Construction, Mining, Materials Handling Eq.	20.6	0.0	0.0
Metalworking Machinery	36.3	4.5	10.8
Special Industry Machinery	935.0	-38.4	-84.5
General Industrial Machinery	14.1	-7.5	-5.8
Office, Computing Machinery	25.8	-11.3	10.8
Refrigeration and Service Industry Machinery	73.9	0.0	25.0
Autos, Trucks & Parts (a)	-6.4	8.0	-4.6
Aerospace (a)	23.1	-11.2	-5.8
Fabricated Metals (a)	9.7	1.5	4.1
Cutlery, Hand Tools, Hardware	29.4	30.0	15.4
Plumbing and Heating Eq.	-52.8	65.0	6.1
Fabricated Structural Metal	-42.0	84.9	-27.6
Screw Machine Products	12.0	-7.1	0.0
Metal Forgings and Stampings	-4.1	-3.7	-11.3
Misc. Fabricated Metals	13.4	-0.5	0.7
Instruments (a)	39.8	-10.7	-2.7
Engineering & Scientific Instruments	2.8	1.1	0.0
Measuring and Controlling Devices	50.6	-6.4	-4.5
Optical Instruments and Lenses	18.7	-21.0	NC
Medical Instruments and Supplies	27.3	-11.1	0.0
Stone, Clay & Glass (a)	-11.7	-0.3	9.1
Glass and Glassware, Pressed or Blown	-25.0	-4.2	30.4
Products of Purchased Glass	-2.0	0.0	NA
Cement, Hydraulic	6.4	-2.2	3.5
Structural Clay Products	-36.0	NA	NA
Misc. Nonmetallic Mineral Products	9.5	0.0	0.0
Other Durables (a)	41.5	0.0	16.9
Lumber	41.5	0.0	33.3
Furniture	4.8	26.2	-21.7
Ships & Boats	-40.6	300.0	0.0
Transportation Eq. NEC	-50.0	200.0	-60.0
Nondurables			
Chemicals (a)	18.3	5.0	3.4
Industrial Inorganic Chemicals	39.5	3.3	5.1
Plastics Materials and Synthetics	-3.0	-26.0	40.0
Drugs	19.9	0.0	-1.2
Soap, Cleaners, & Toilet Goods	0.0	-20.0	0.0
Paints	34.2	NC	7.1
Agricultural Chemicals	177.7	5.8	-15.5
Misc. Chemicals	29.5	-7.4	-16.4
Paper & Pulp (a)	36.2	9.5	-35.7
Paper Mills	8.1	-7.1	-22.7
Converted Paper Prod.	-86.5	200.0	33.3
Rubber & Plastics (a)	13.9	-8.6	-2.5
Miscellaneous Plastics Products	36.0	-48.5	0.0
Petroleum (a)	14.5	6.6	0.0

Table XIV (Continued)

Industry	Capital Spending % Change 1988	1989	1990
Food & Beverage (a)	18.9	0.3	-6.2
Meat Products	41.4	2.3	-16.8
Dairy Products	47.1	18.5	-22.3
Preserved Fruits and Vegetables	24.9	-38.3	16.0
Grain Mill Products	17.5	38.5	9.2
Beverages	5.7	NC	NC
Textiles (a)	21.6	-20.6	0.0
Weaving Mills, Cotton	4.2	5.8	0.0
Knitting Mills	18.6	4.2	6.7
Yarn and Thread Mills	-16.4	NC	NC
Other Nondurables (a)	11.9	-25.3	2.8
Tobacco	44.3	-36.4	8.0
Apparel	56.3	-20.0	25.0
Printing and Publishing	5.2	-22.7	1.0
Leather	42.2	-15.2	-7.6
Nonmanufacturing			
Mining (a)	33.3	-3.9	-5.0
Metal Mining	45.1	-23.5	-8.0
Bituminous Coal	2.9	32.6	-8.1
Oil & Gas Extraction	29.1	8.9	0.0
Oil Well Services	31.3	NC	NC
Stone & Earth Minerals	16.7	42.9	0.0
Railroads (c) (a)	41.6	0.7	0.0
Airlines (a)	43.1	2.4	-2.3
Other Transportation (a)	17.7	-3.1	-2.9
Trucking and Warehousing	39.4	3.2	-2.9
River & Canal Transportation	-11.8	2.5	27.9
Pipelines	-30.6	-19.3	3.3
Freight Trans., Rail Car Rent	0.9	9.5	9.1
Electric Utilities (a)	-5.5	-4.4	-4.9
Gas Utilities (a)	-8.9	3.5	2.1
Communications (a)	7.3	4.5	-4.8
Telephone Communications	7.4	4.5	-4.7
Trade & Services (b) (a)	3.7	2.0	4.7
General Building Contractors	151.6	NA	NA
Heavy Construction Contractors	-40.4	9.8	-0.9
Retail and Whole. Trade	40.6	-6.9	-6.0
General Merchandise Stores	20.8	2.3	-3.8
Food Stores	109.7	-19.5	-12.3
Finance	0.6	1.9	-1.4
Insurance Carriers	10.7	-0.8	-7.7
Personal & Business Services	2.1	6.1	13.6
Hotels and Motels	21.8	19.0	-34.6
Business Services	14.8	-14.2	5.7
Computer and Data Processing Services	-5.5	-17.6	15.3
Miscellaneous Business Services	41.4	-11.6	-1.5
Amusement & Recreations Services	-40.0	0.0	0.0
Health Services	-11.1	0.7	0.2
Educational Services	25.0	11.1	15.0
Miscellaneous Professional Services	492.7	-69.1	-46.4

a. Percentage changes in this report are different than reported in Table I due to the treatment of outliers. In Table I, the dollar spending of 'outliers' is re-included when going from sample percentage change to the level of industry spending.

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NO. G _____
GENERAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

	1987	1988	1989
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	____%	____%	____%
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%
3. If your firm is in manufacturing or mining : How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).	____%	____%	____%
At the end of 1987, at what rate of capacity was your company operating?	____%		
What is your firm's preferred rate of operation?	____%		

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AUTOS, TRUCKS, & PARTS

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

1987	1988	1989

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	____%	____%	____%
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

	____%	____%	____%
At the end of 1987, at what rate of capacity was your company operating?	____%		
What is your firm's preferred rate of operation?	____%		

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NO. CH _____
CHEMICALS

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1987-90 for manufacturing, nonmetallic mining, and other activities.

	1987	1988	1989	1990
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonmetallic mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

	1987	1988	1989
	_____%	_____%	_____%

At the end of 1987, at what rate of capacity was your company operating? _____%

What is your firm's preferred rate of operation? _____%

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NO. EU _____
ELECTRIC UTILITIES

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

	1987	1988	1989
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%
3. How much did (will) your company's generating capacity increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).	____%	____%	____%
What percent of your system's maximum generating capacity was reserve margin at:			
Summer Peak	____%		
Winter Peak	____%		
What is your firm's average preferred reserve margin?	____%		

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NO. GU_____
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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

3. How much did (will) your company increase (decrease) its system's capacity? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

1987	1988	1989
____%	____%	____%

What percent of your system's maximum capacity were you utilizing for the December 1987 max day? ____%

What is your firm's preferred rate of operation? ____%

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NO. IC _____
IRON & STEEL

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1987-90, in manufacturing, iron, coal, and nonmetallic mining and 'other' activities. Please include under mining all operations including smelting and refining.

	1987	1988	1989	1990
Manufacturing	$ _____	$ _____	$ _____	$ _____
Iron Mining	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

	1987	1988	1989
Manufacturing	_____%	_____%	_____%
Metal Mining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%

At the end of 1987, at what rate of capacity was your company operating?

Manufacturing	_____%
Metal Mining	_____%
Coal Mining	_____%

What is your firm's preferred rate of operation? _____%

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NO. M _____
MINING

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years. (If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1987-90, for manufacturing, nonferrous, and nonmetallic mining and other actvities. Please include under nonmetallic mining all mineral processing.

	1987	1988	1989	1990
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonferrous mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

	1987	1988	1989
Manufacturing	_____%	_____%	_____%
Mining	_____%	_____%	_____%

At the end of 1987, at what rate of capacity was your company operating?

Manufacturing	_____%
Mining	_____%

What is your firm's preferred rate of operation? _____%

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. N _____
NONFERROUS METALS

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases, charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1987-90, for manufacturing, nonferrous, coal, and nonmetallic mining and 'other' activities. Please include under mining all operations including smelting and refining.

	1987	1988	1989	1990
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonferrous Mining	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).

Manufacturing	_____%	_____%	_____%
Metal Mining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%

At the end of 1987, at what rate of capacity was your company operating?

Manufacturing	_____%
Metal Mining	_____%
Coal Mining	_____%

What is your firm's preferred rate of operation? _____%

MAY009

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Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. P _____
PETROLEUM

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1987-90, and what was (will be) the distribution among the following :

	1987	1988	1989	1990
Production / Exploration	$ _____	$ _____	$ _____	$ _____
Refining	$ _____	$ _____	$ _____	$ _____
Petrochemicals	$ _____	$ _____	$ _____	$ _____
Transportation	$ _____	$ _____	$ _____	$ _____
Marketing	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

	1987	1988	1989
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1986 to year-end 1987 for the 1987 column, for example).			
Refining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%
At the end of 1987, at what rate of capacity was your company operating?			
Refining	_____%		
Coal Mining	_____%		
What is your firm's preferred rate of operation?	_____%		

MAY007

CONFIDENTIAL

NO. RR _____
RAILROADS

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

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NO. S _____

TRADE & SERVICES

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1988-1990

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1987, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1987, and how much does it plan to invest (inflation included) in 1988-90?

1987	1988	1989	1990
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1987	1988	1989
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

RESEARCH AND DEVELOPMENT (R&D)

1. What was the cost of all R&D performed by your company in the U.S. in 1986 and 1987? (If your answers omit 000s or 000,000s, note:_____.)

1986 $ _____

1987 $ _____

2. By what percent do you think your company's total R&D spending will increase (decrease) between 1987-88 and 1988-90?

1987-88	1988-90
_____ %	_____ %

SALES AND PRICES

1. What were your company sales, including exports, in 1987? (If your answers omit 000s or 000,000s, note: _____ .)

$ _____

2. By what percent do you think your sales will increase (decrease) between 1987-1988?

_____ %

3. By what percent do you think the prices of goods and services your company sells will increase (decrease) between 1987-1988?

_____ %

4. By what percent do you expect the prices of plant and equipment your company buys to increase (decrease) between 1987-1988?

_____ %

NAME _____ TITLE _____

COMPANY _____ PHONE ( ) _____

ADDRESS _____

COMPANY'S MAJOR LINE OF BUSINESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL
(Please return by April 11)